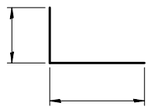
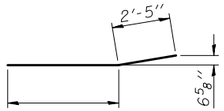
CELL / MODEL NAME	DESCRIPTION	DATE
A-1	Pile stub abutment no skew	7/1/2010
A-1-D	Pile stub abutment details	1/27/2012
A-1-DSD	Pile stub abutment details with drilled shafts	1/27/2012
A-1-L (greater than 30 degree skew)	Pile stub abutment ahead left (> 30 degree skew)	1/27/2012
A-1-L (less than 30 degree skew)	Pile stub abutment ahead left (< 30 degree skew)	7/1/2010
A-1-R (greater than 30 degree skew)	Pile stub abutment ahead right (> 30 degree skew)	1/27/2012
A-1-R (less than 30 degree skew)	Pile stub abutment ahead right (< 30 degree skew)	7/1/2010
AD-11-0	Abutments for 11 inch deck beams, no skew	7/1/2010
AD-11-L	Abutments for 11 inch deck beams, ahead left skew	7/1/2010
AD-11-R	Abutments for 11 inch deck beams, ahead right skew	7/1/2010
AD-1721-0	Abutments for 17" or 21" deck beams, no skew	7/1/2010
AD-1721-L	Abutments for 17" or 21" deck beams, ahead left skew	7/1/2010
AD-1721-R	Abutments for 17" or 21" deck beams, ahead right skew	7/1/2010
AD-2742-0	Abutments for 27", 33", or 42" deck beams, no skew	7/1/2010
AD-2742-L	Abutments for 27", 33" or 42" deck beams, ahead left skew	7/1/2010
AD-2742-R	Abutments for 27", 33", or 42" deck beams, ahead right skew	7/1/2010
AI-2440-0	Integral abutment; 24-40 inch depth beams; No skew	8/31/2012
AI-2440-L	Integral abutment; 24-40 inch depth beams; Left skew	8/31/2012
AI-2440-R	Integral abutment; 24-40 inch depth beams; Right skew	8/31/2012
AI-2440S-0	Integral abutment; 24-40 inch depth beams; Spiral; No skew	8/31/2012
AI-2440S-L	Integral abutment; 24-40 inch depth beams; Spiral; Left skew	8/31/2012
AI-2440S-R	Integral abutment: 24-40 inch depth beams; Spiral; Right skew	8/31/2012
AI-greater than 40-0	Integral abutment; Greater than 40 inch depth beams; No skew	8/31/2012
AI-greater than 40-L	Integral abutment; Greater than 40 inch depth beams; Left skew	8/31/2012
AI-greater than 40-R	Integral abutment; Greater than 40 inch depth beams; Right skew	8/31/2012
AI-greater than 40S-0	Integral abutment; Greater than 40 inch depth beams; Spiral; No skew	8/31/2012
AI-greater than 40S-L	Integral abutment; Greater than 40 inch depth beams; Spiral; Left skew	8/31/2012
AI-greater than 40S-R	Integral abutment; Greater than 40 inch depth beams; Spiral; Right skew	8/31/2012
AIS-0	Integral abutment; Slab bridge; No skew	8/31/2012
AIS-L	Integral abutment; Slab bridge; Left skew	8/31/2012
AIS-R	Integral abutment; Slab bridge; Right skew	8/31/2012
AV-I-0	Vaulted abutment no skew with PPC I beams	7/1/2010
AV-I-L	Vaulted abutment ahead left with PPC I beams	7/1/2010
AV-I-R	Vaulted abutment ahead right with PPC I beams	7/1/2010
AV-IW-0	Vaulted abutment no skew with PPC I beams	7/1/2010
AV-IW-LR	Vaulted abutment skewed with PPC I beams	7/1/2010

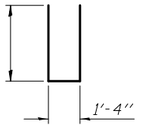
CELL / MODEL NAME	DESCRIPTION	DATE
AV-S-0 (1 of 2)	Vaulted abutment no skew sand filled	7/1/2010
AV-S-0 (2 of 2)	Vaulted abutment no skew sand filled	7/1/2010
AV-S-L (1 of 2)	Vaulted abutment ahead left sand filled	7/1/2010
AV-S-L (2 of 2)	Vaulted abutment ahead left sand filled	7/1/2010
AV-S-R (1 of 2)	Vaulted abutment ahead right sand filled	7/1/2010
AV-S-R (2 of 2)	Vaulted abutment ahead right sand filled	7/1/2010
F-HP	Steel H piles	1/27/2012
F-MS	Metal shell piles	1/27/2012
F-PC	Precast piles	7/1/2010
P-1	Solid straight stem pier	7/1/2010
P-2	Single hammerhead pier	7/1/2010
P-3	Double hammerhead pier	7/1/2010
P-4	Double hammerhead pier (alternate)	7/1/2010
P-5	Three column pier	7/1/2010
P-6	Multiple column pier	7/1/2010
P-7	Trapezoidal pier	7/1/2010
P-10	Single hammerhead pier (modified)	7/1/2010
P-11	Two column trapezoidal pier	7/1/2010
P-12	Three column trapezoidal pier	7/1/2010
P-13	Four column trapezoidal pier	7/1/2010
P-14	Five column trapezoidal pier	7/1/2010
P-24	Four column pier (over railroad)	7/1/2010
P-26	Six column pier (over railroad)	7/1/2010
P-DS	Drilled shaft pier	7/1/2010
P-DSCW	Drilled shaft pier with crashwall	7/1/2010
P-DSSW	Drilled shaft pier (solid)	11/26/2012
P-DSTB	Drilled shaft pier with transfer beam	7/1/2010
P-DSWW	Drilled shaft pier with webwall	11/26/2012
PB-1	Solid battered stem pier	7/1/2010
PC-1	Solid straight stem pier with cap	7/1/2010



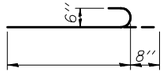
BAR $h_2(E)$



BAR $h_4(E)$



BAR $n(E)$



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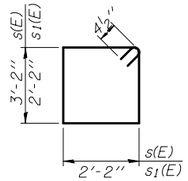
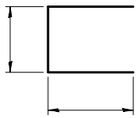
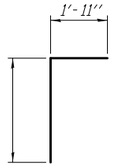


BARS $s(E)$ & $s_1(E)$

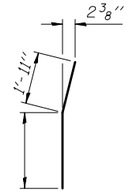


BAR $u(E)$

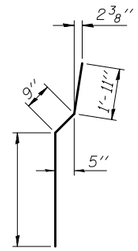


BAR $v(E)$

BAR $v_1(E)$



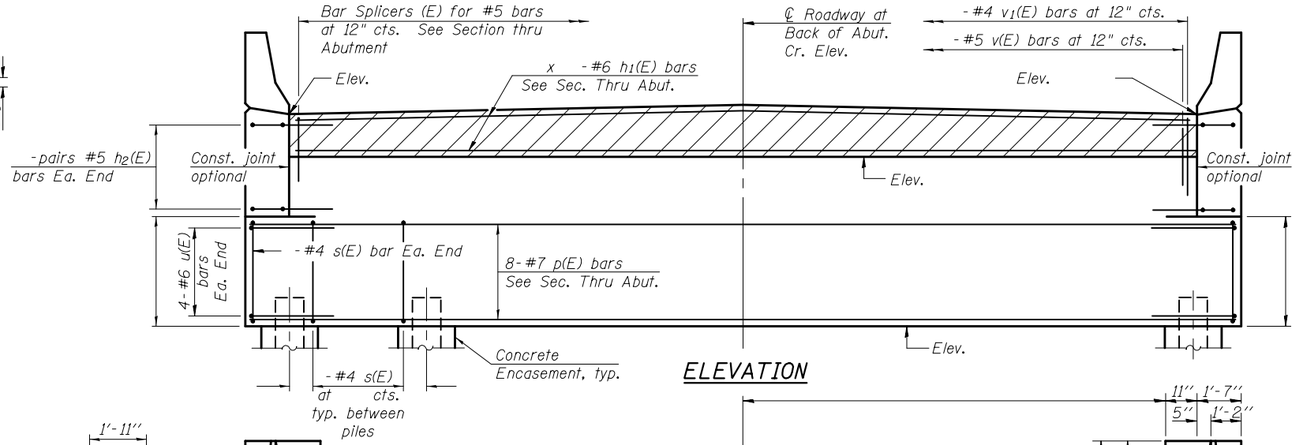
BAR $v_3(E)$



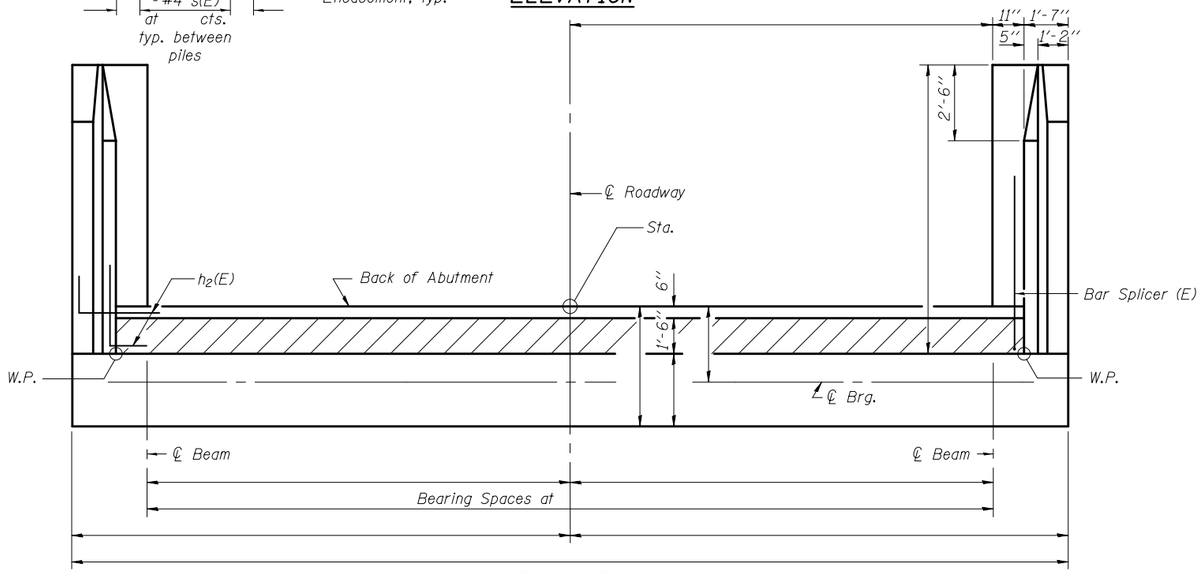
BAR $v_4(E)$

PILE DATA

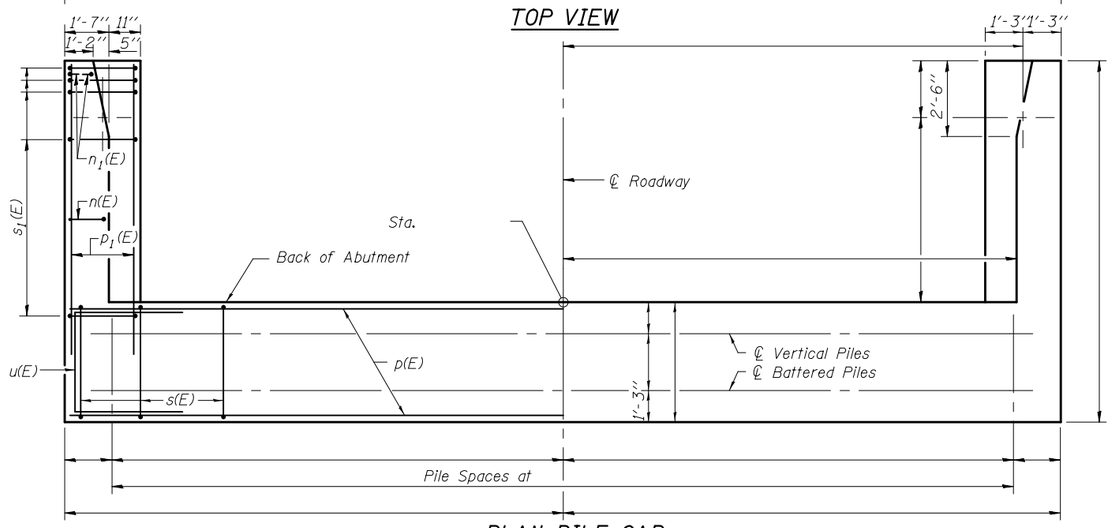
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



ELEVATION



TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
$h_1(E)$		#6		
$h_2(E)$		#5		
$h_3(E)$		#4		
$h_4(E)$		#4		
n(E)		#6		
$n_1(E)$		#6		
p(E)		#7		
$p_1(E)$		#7		
s(E)		#4		
$s_1(E)$		#4		
u(E)		#6		
v(E)		#5		
$v_1(E)$		#4		
$v_2(E)$		#6		
$v_3(E)$		#6		
$v_4(E)$		#6		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Concrete Encasement		Cu. Yd.		
Concrete Sealer		Sq. Ft.		

For details of Bar Splicers, see sheet -of -.
For details of piles and Concrete Encasement, see sheet - of -.

A-1

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

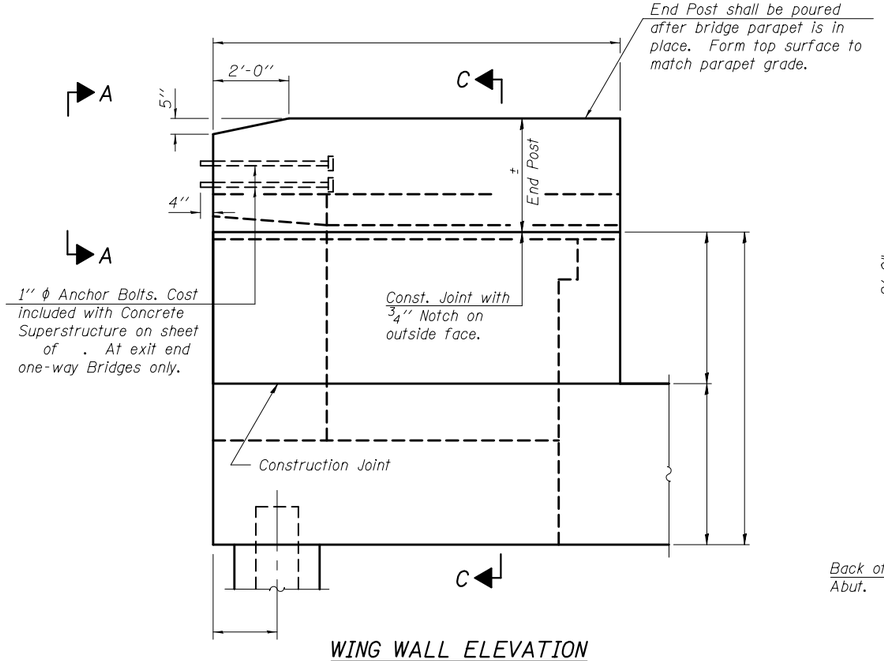
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

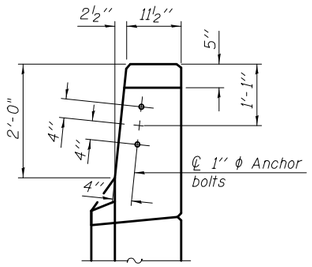
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.

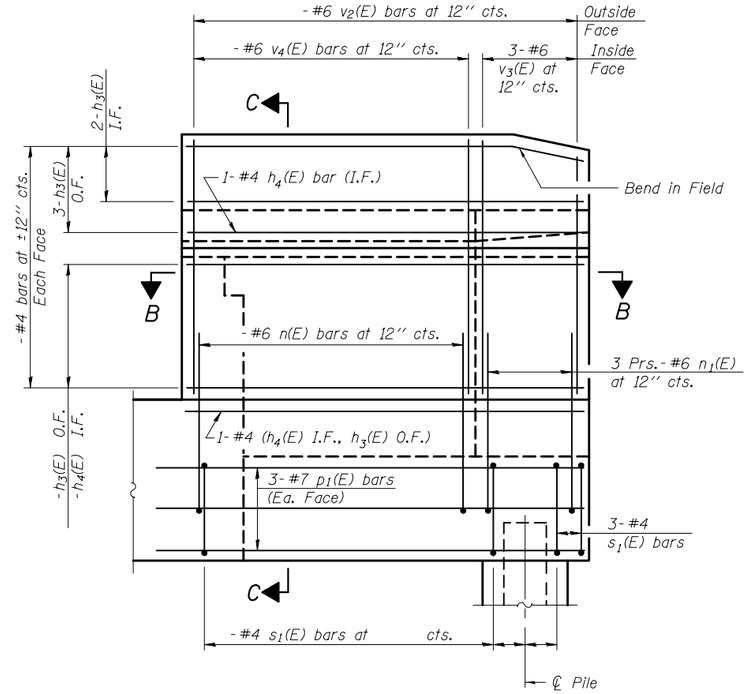
ILLINOIS FED. AID PROJECT



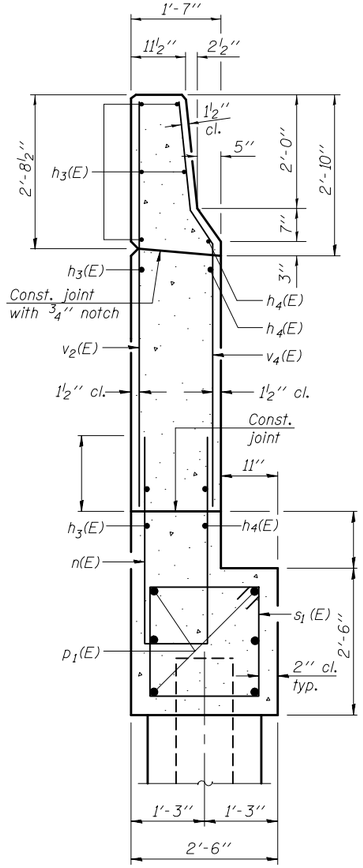
WING WALL ELEVATION
Showing Dimensions



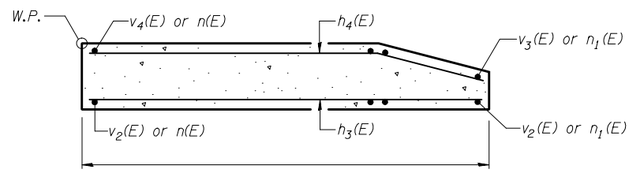
VIEW A-A



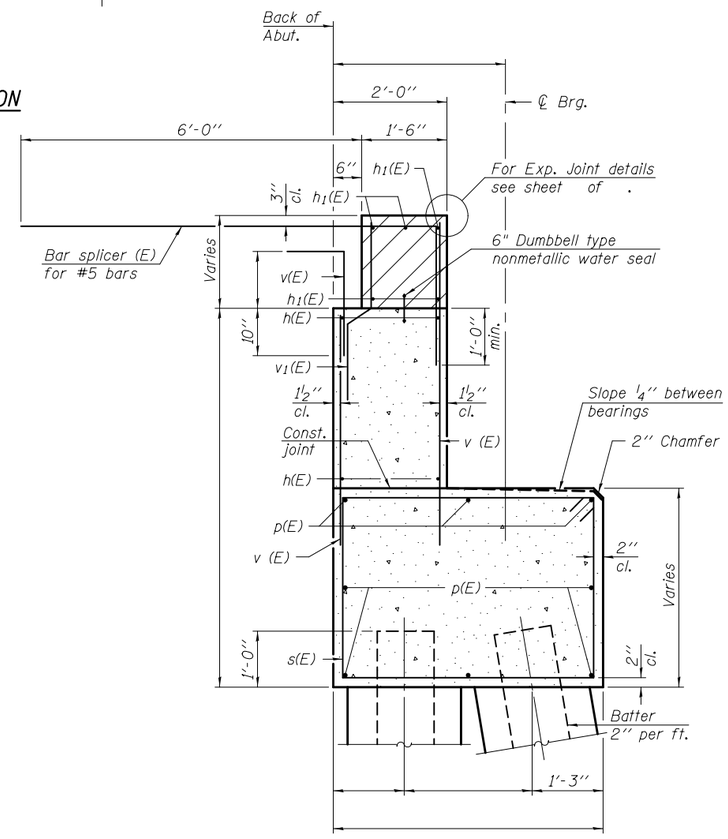
WING WALL ELEVATION
Showing Reinforcement



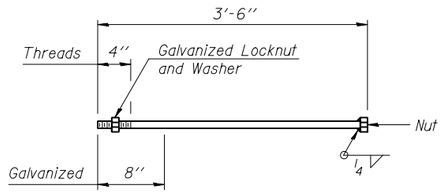
SECTION C-C



SECTION B-B



SEC. THRU ABUT.

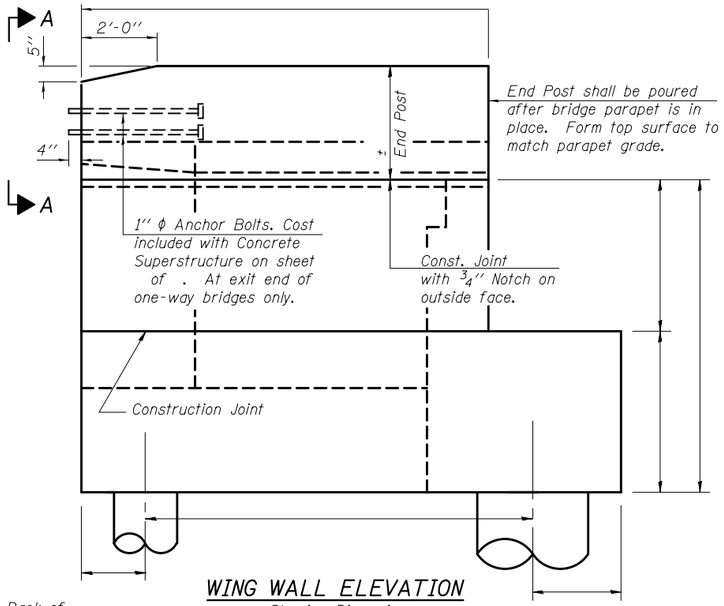


1" ϕ ANCHOR BOLT

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on sheet - of -.
For Concrete Encasement details, see sheet - of -.

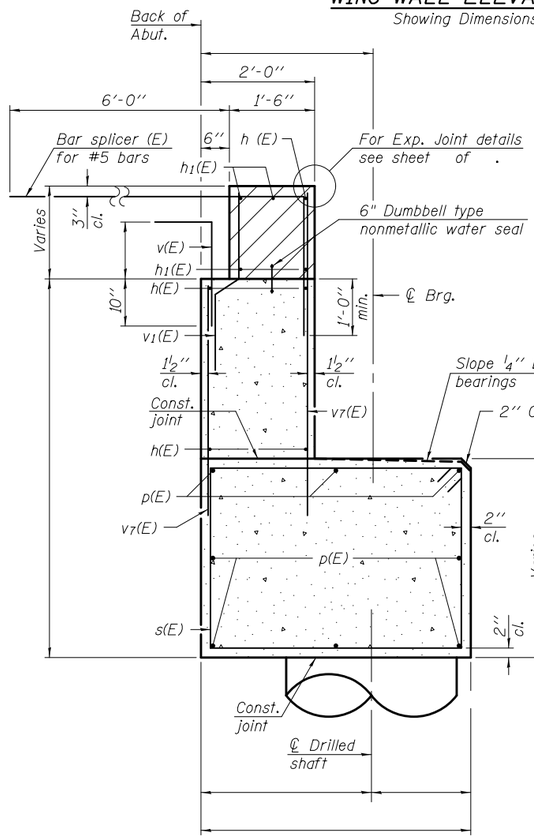
A-1-D 1-27-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENTS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT

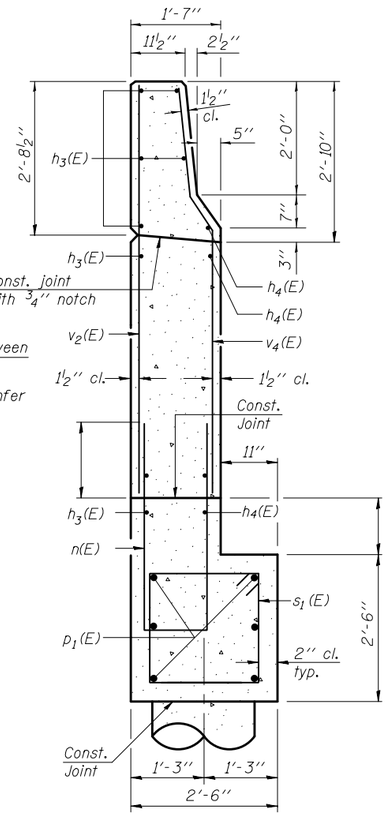


WING WALL ELEVATION

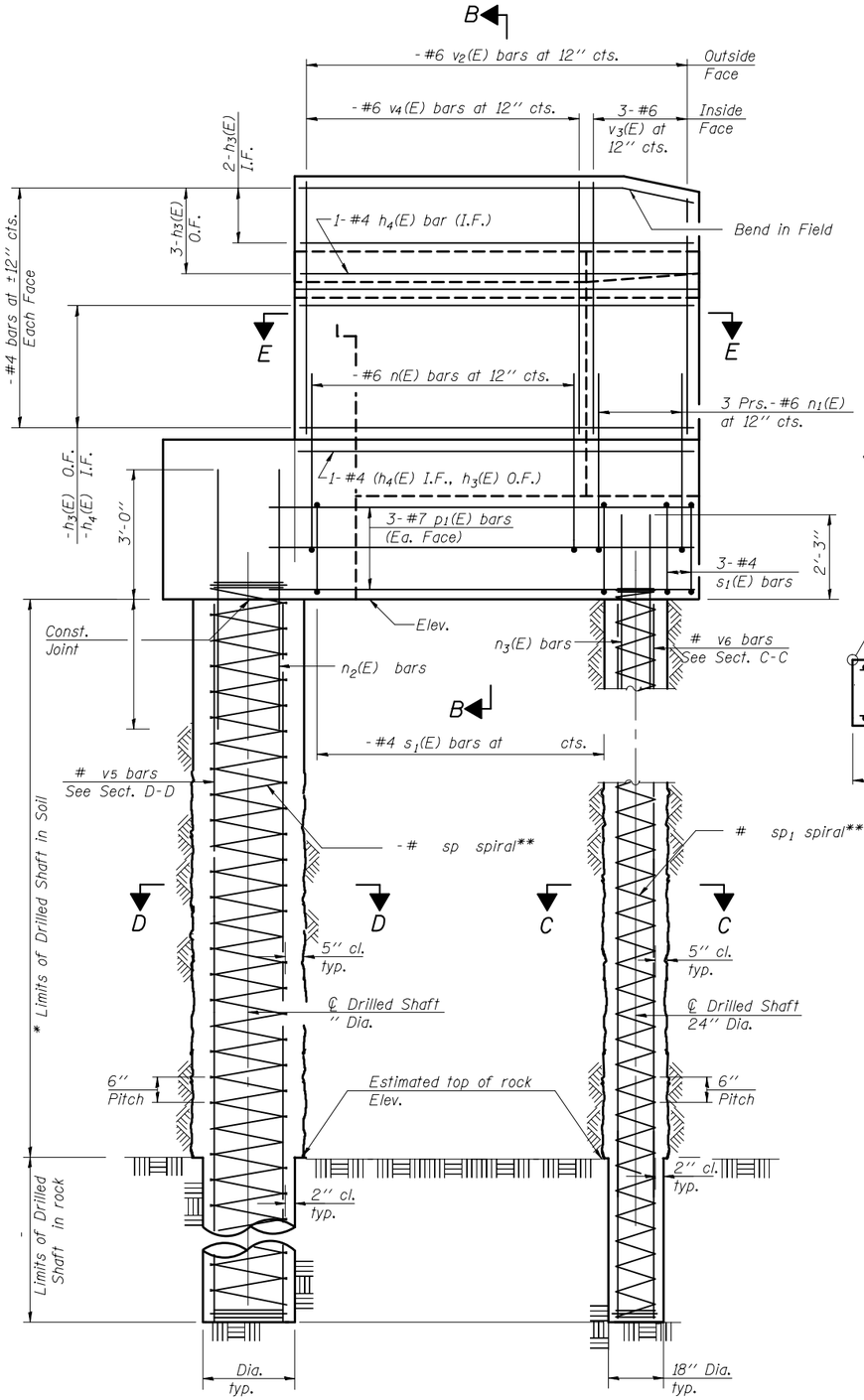
Showing Dimensions



SECTION THRU ABUT.

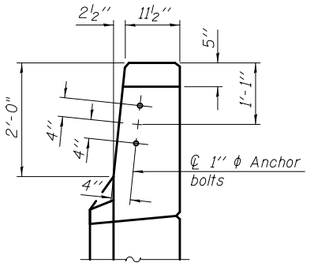


SECTION B-B

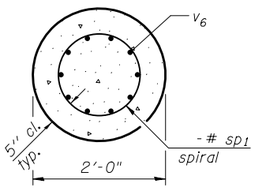


WING WALL & DRILLED SHAFT ELEVATION

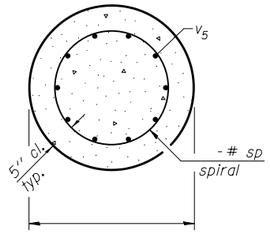
Showing Reinforcement



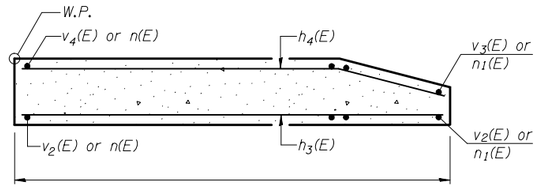
VIEW A-A



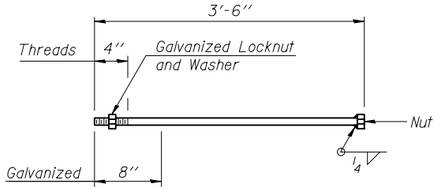
SECTION C-C



SECTION D-D



SECTION E-E



1" ϕ ANCHOR BOLT

Notes:
Quantity of concrete in end post included with Concrete Superstructure on sheet of .
Min. lap for spirals = .
Pour steps monolithically with cap.

* The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcment quantities and payment limits.

** Provide 1½ extra turns top and bottom of each drilled shaft. Extend spiral 2" into abutment or wingwall cap. Provide min. 4- #4 spacers or equivalent.

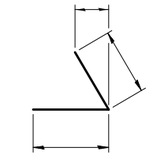
A-1-DSD 1-27-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

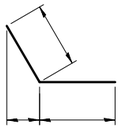
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

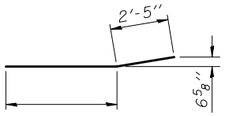
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
ILLINOIS FED. AID PROJECT				



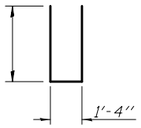
BAR $h_1(E)$



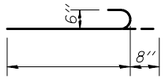
BAR $h_2(E)$



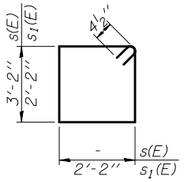
BAR $h_4(E)$



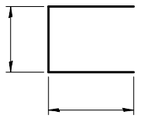
BAR $n(E)$



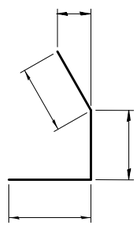
BAR $n_1(E)$



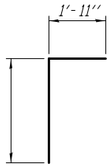
BARS $s(E)$ & $s_1(E)$



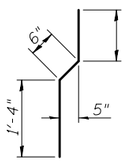
BAR $u(E)$



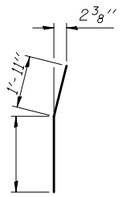
BAR $u_1(E)$



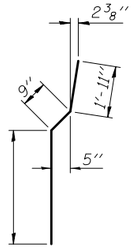
BAR $v(E)$



BAR $v_1(E)$



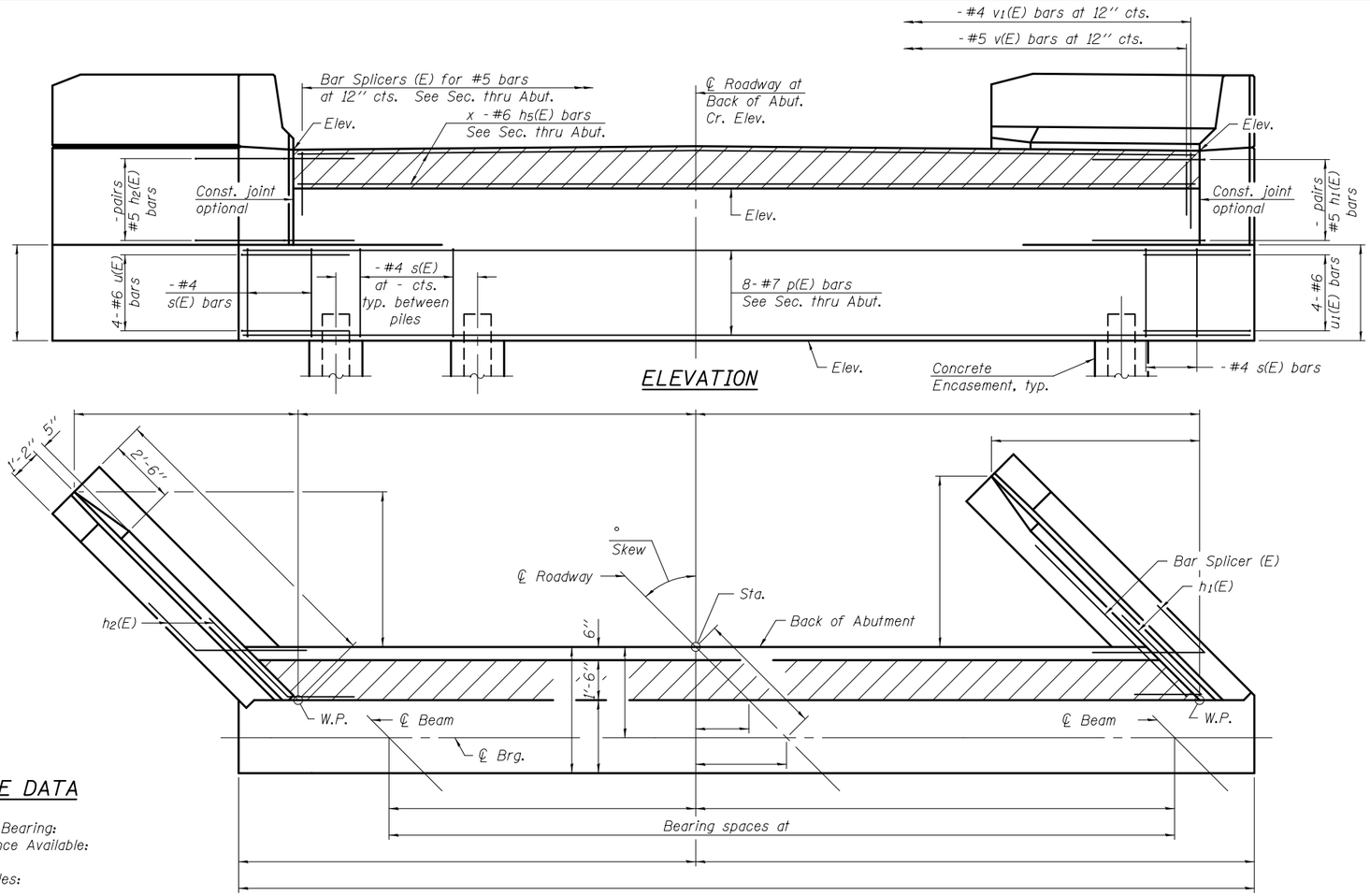
BAR $v_3(E)$



BAR $v_4(E)$

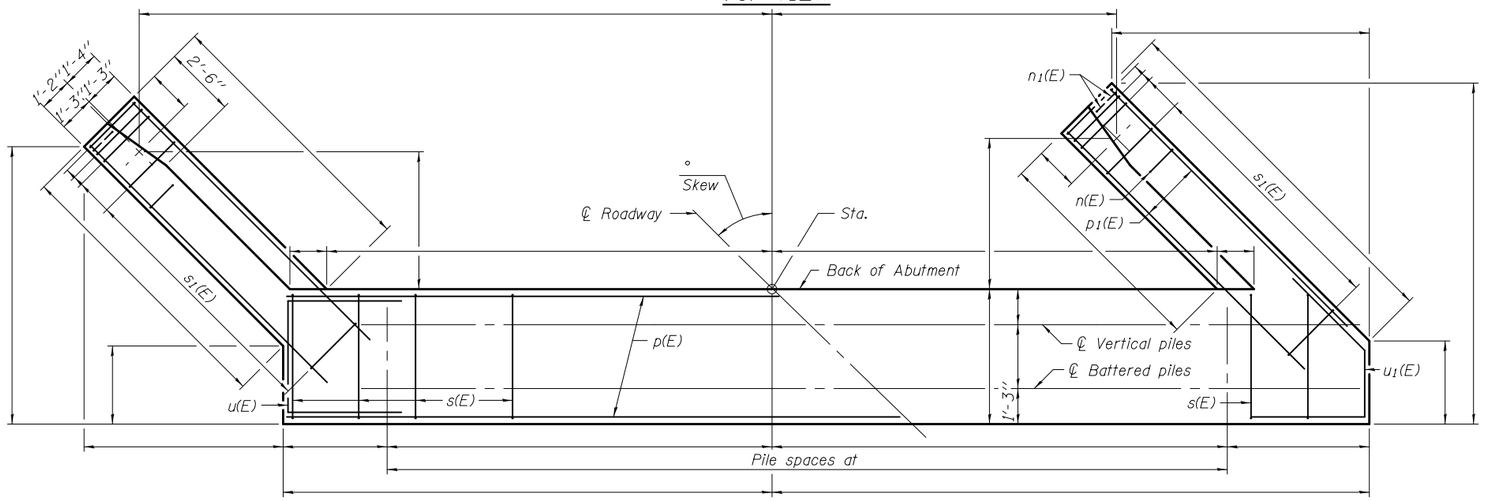
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



ELEVATION

TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$		#5		
$h_1(E)$		#5		
$h_2(E)$		#5		
$h_3(E)$		#4		
$h_4(E)$		#4		
$h_5(E)$		#6		
$n(E)$		#6		
$n_1(E)$		#6		
$p(E)$		#7		
$p_1(E)$		#7		
$s(E)$		#4		
$s_1(E)$		#4		
$u(E)$		#6		
$u_1(E)$		#6		
$v(E)$		#4		
$v_1(E)$		#4		
$v_2(E)$		#6		
$v_3(E)$		#6		
$v_4(E)$		#6		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Concrete Encasement		Cu. Yd.		
Concrete Sealer		Sq. Ft.		

For details of Bar Splicers, see sheet - of -.
For details of piles and Concrete Encasement, see sheet - of -.

A-1-L (>30°) 1-27-12

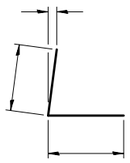
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

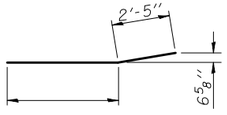
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT

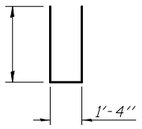


BAR $h_1(E)$

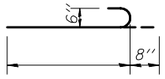
BAR $h_2(E)$



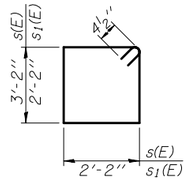
BAR $h_4(E)$



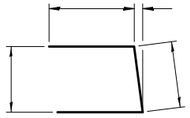
BAR $n(E)$



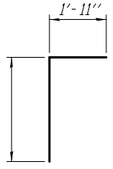
BAR $n_1(E)$



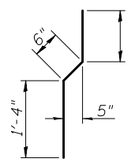
BARS $s(E)$ & $s_1(E)$



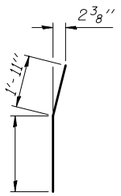
BAR $u(E)$



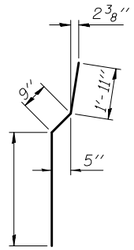
BAR $v(E)$



BAR $v_1(E)$



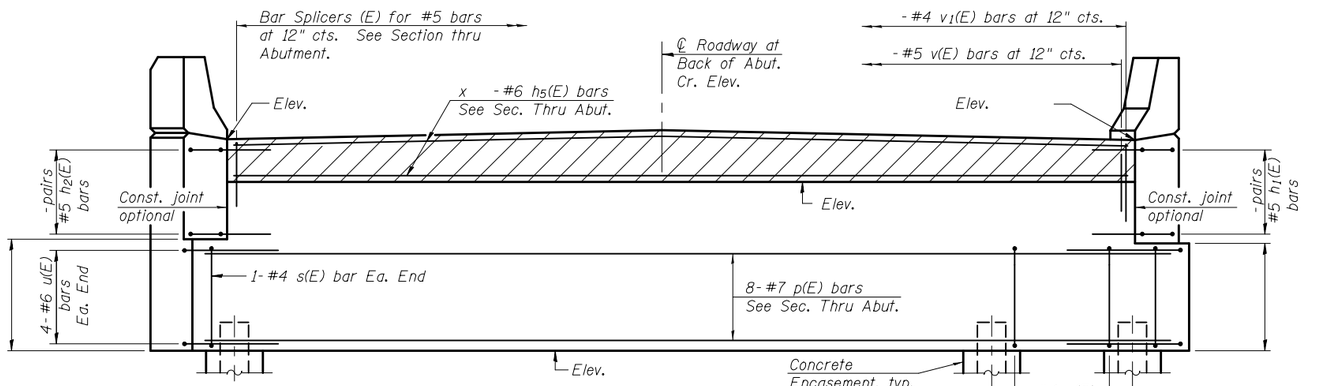
BAR $v_3(E)$



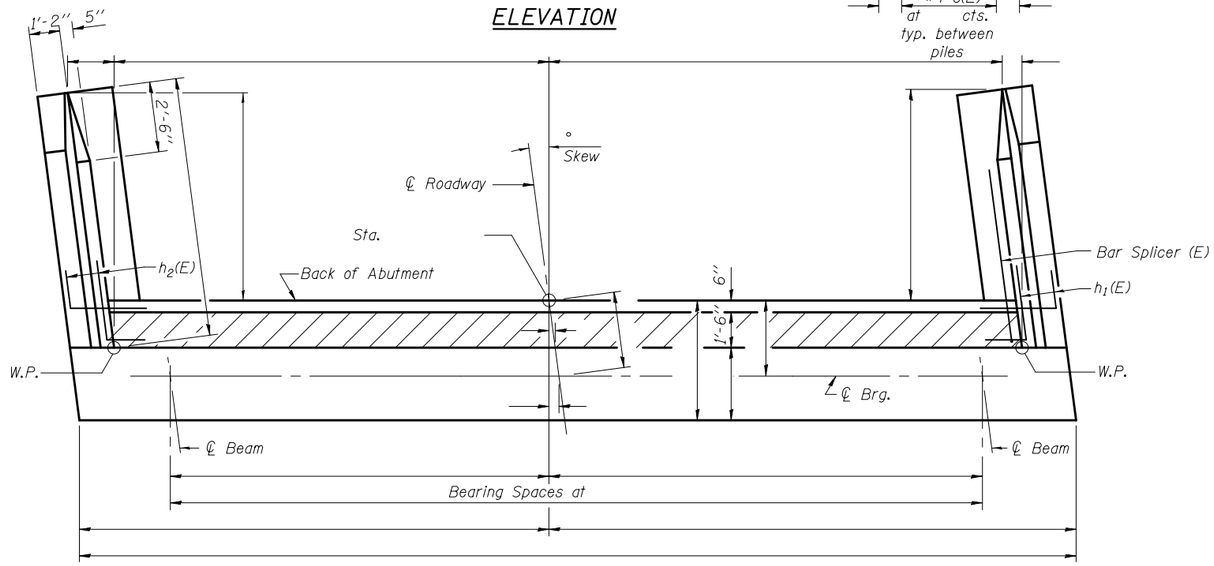
BAR $v_4(E)$

PILE DATA

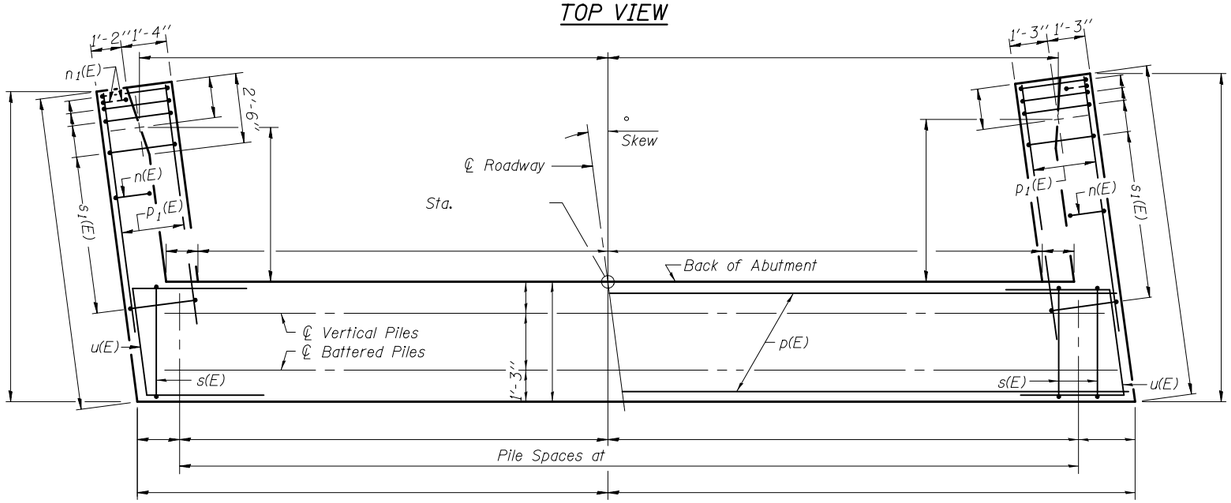
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



ELEVATION



TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
$h_1(E)$		#5		
$h_2(E)$		#5		
$h_3(E)$		#4		
$h_4(E)$		#4		
$h_5(E)$		#6		
n(E)		#6		
$n_1(E)$		#6		
p(E)		#7		
$p_1(E)$		#7		
s(E)		#4		
$s_1(E)$		#4		
u(E)		#6		
v(E)		#5		
$v_1(E)$		#4		
$v_2(E)$		#6		
$v_3(E)$		#6		
$v_4(E)$		#6		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	
Concrete Sealer			Sq. Ft.	

For details of Bar Splicers, see sheet - of -.
For details of piles and Concrete Encasement, see sheet - of -.

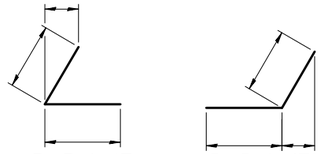
A-1-L (<30°) 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

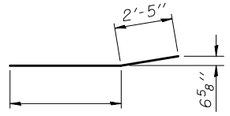
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

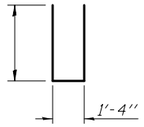


BAR $h_1(E)$

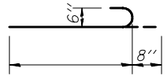
BAR $h_2(E)$



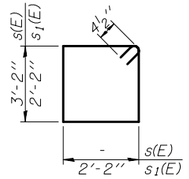
BAR $h_4(E)$



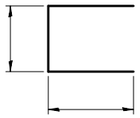
BAR $n(E)$



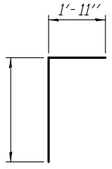
BAR $n_1(E)$



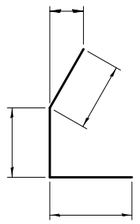
BARS $s(E)$ & $s_1(E)$



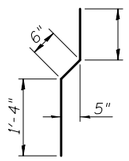
BAR $u(E)$



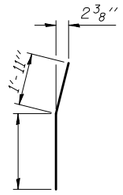
BAR $v(E)$



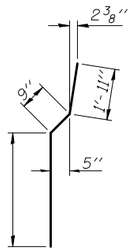
BAR $u_1(E)$



BAR $v_1(E)$



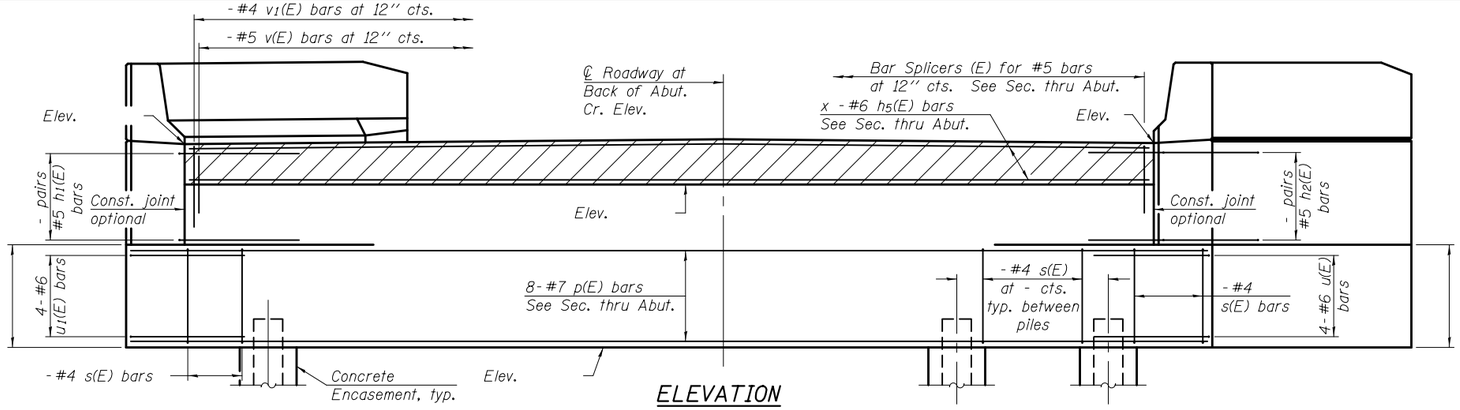
BAR $v_3(E)$



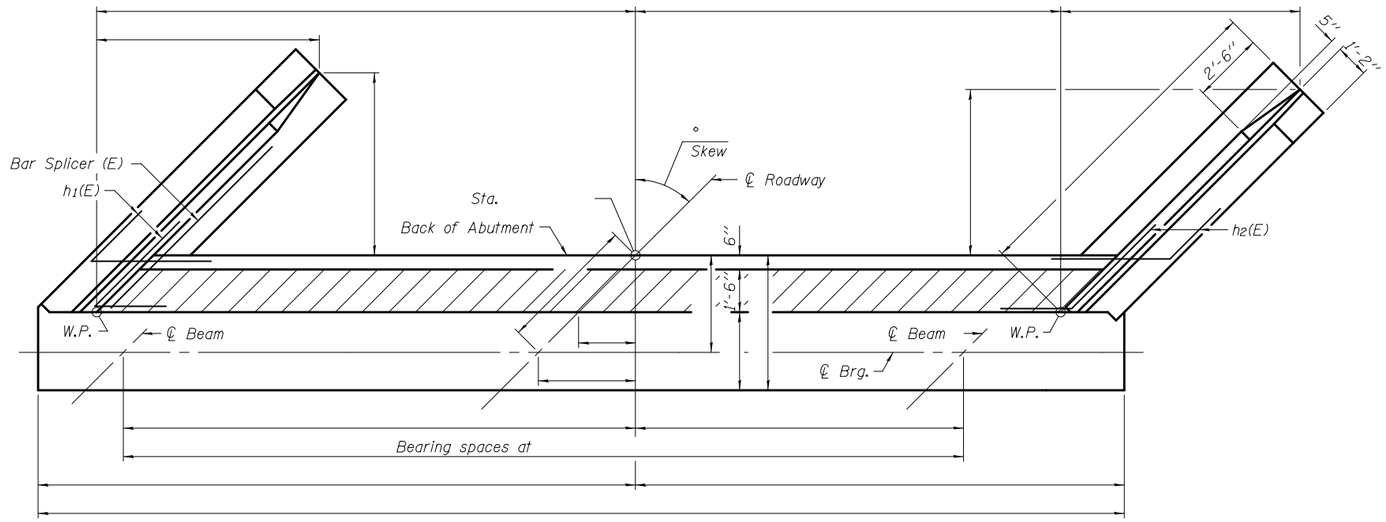
BAR $v_4(E)$

PILE DATA

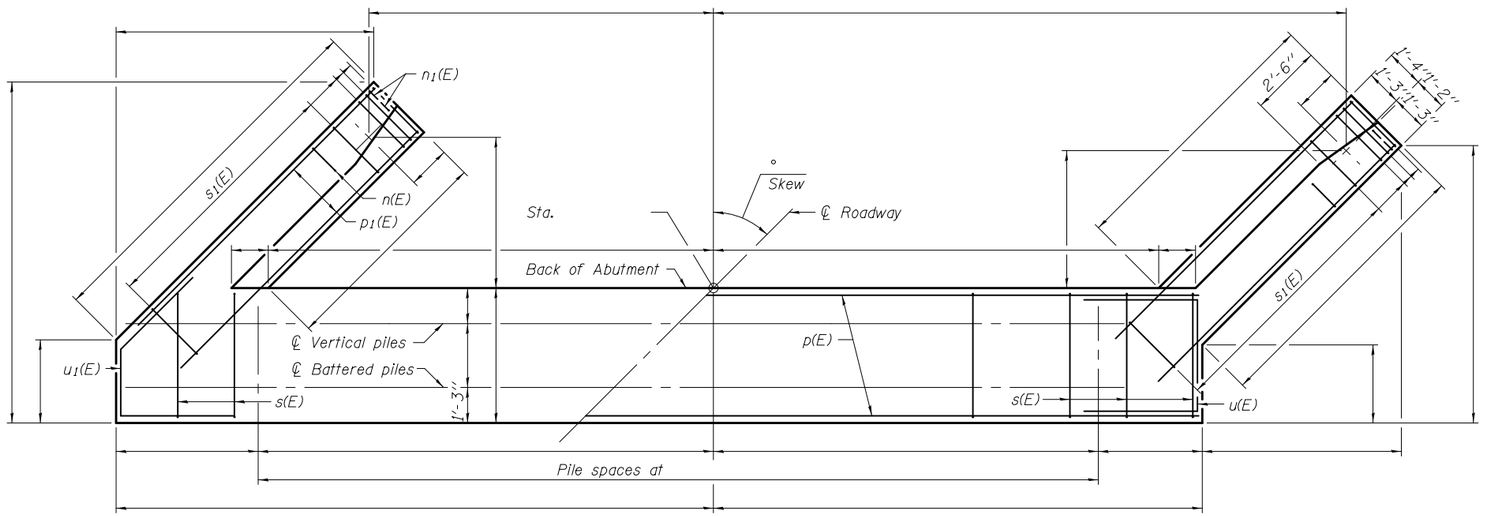
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



ELEVATION



TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
$h_1(E)$		#5		
$h_2(E)$		#5		
$h_3(E)$		#4		
$h_4(E)$		#4		
$h_5(E)$		#6		
n(E)		#6		
$n_1(E)$		#6		
p(E)		#7		
$p_1(E)$		#7		
s(E)		#4		
$s_1(E)$		#4		
u(E)		#6		
$u_1(E)$		#6		
v(E)		#5		
$v_1(E)$		#4		
$v_2(E)$		#6		
$v_3(E)$		#6		
$v_4(E)$		#6		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Concrete Encasement		Cu. Yd.		
Concrete Sealer		Sq. Ft.		

For details of Bar Splicers, see sheet - of -.
For details of piles and Concrete Encasement, see sheet - of -.

A-1-R (>30°) 1-27-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

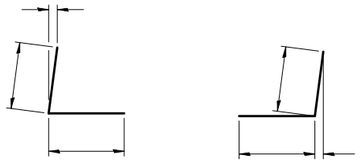
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

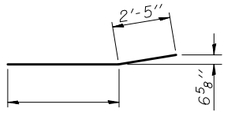
CONTRACT NO.

ILLINOIS FED. AID PROJECT

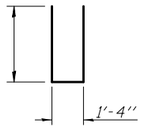


BAR $h_1(E)$

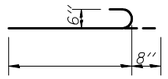
BAR $h_2(E)$



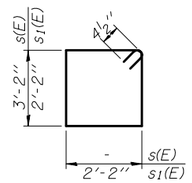
BAR $h_4(E)$



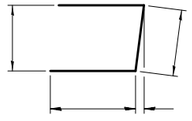
BAR $n(E)$



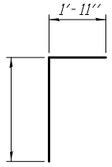
BAR $n_1(E)$



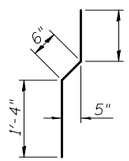
BARS $s(E)$ & $s_1(E)$



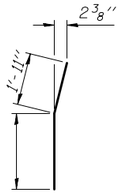
BAR $u(E)$



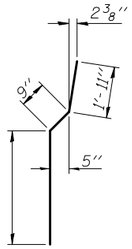
BAR $v(E)$



BAR $v_1(E)$



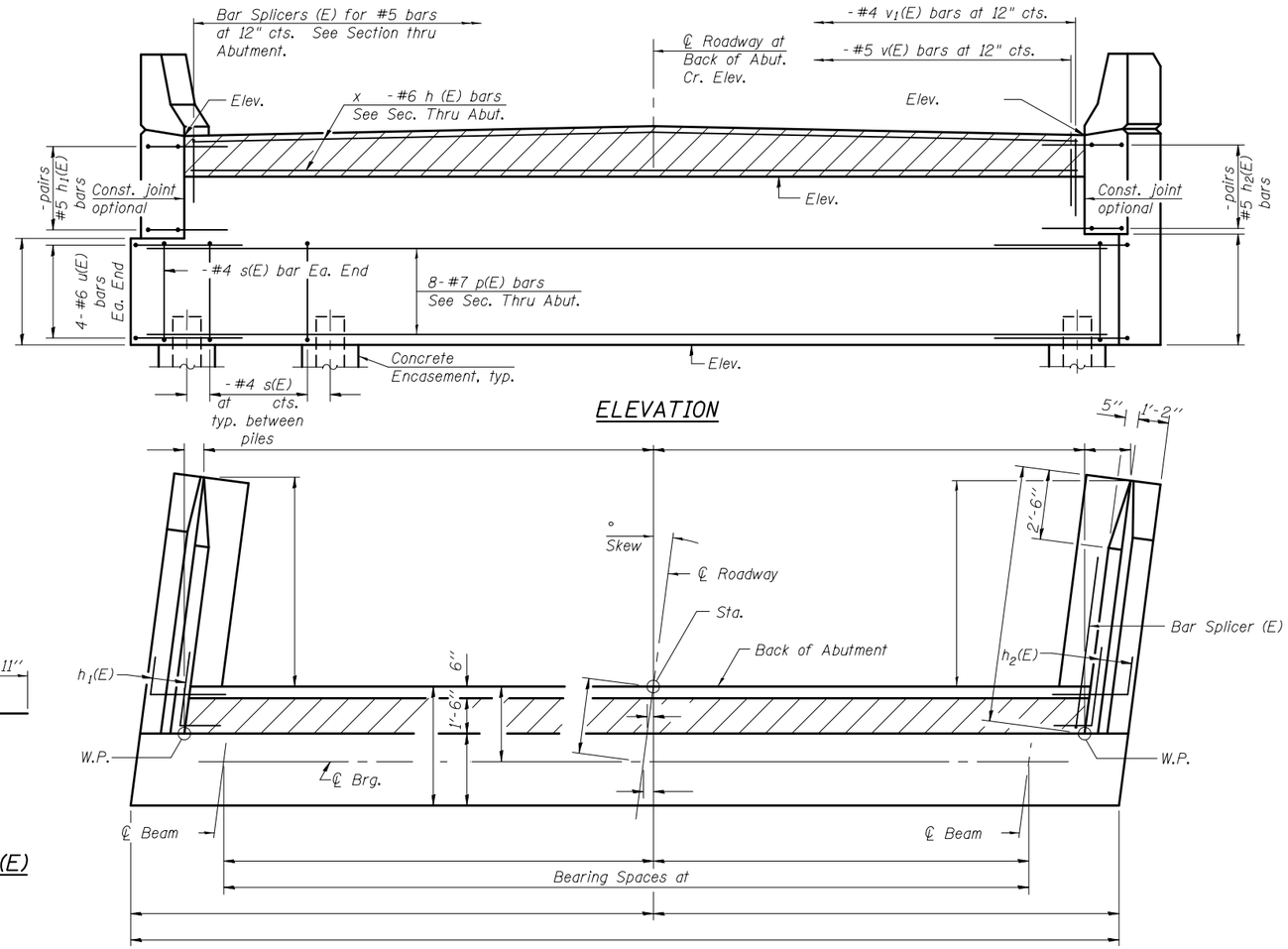
BAR $v_3(E)$



BAR $v_4(E)$

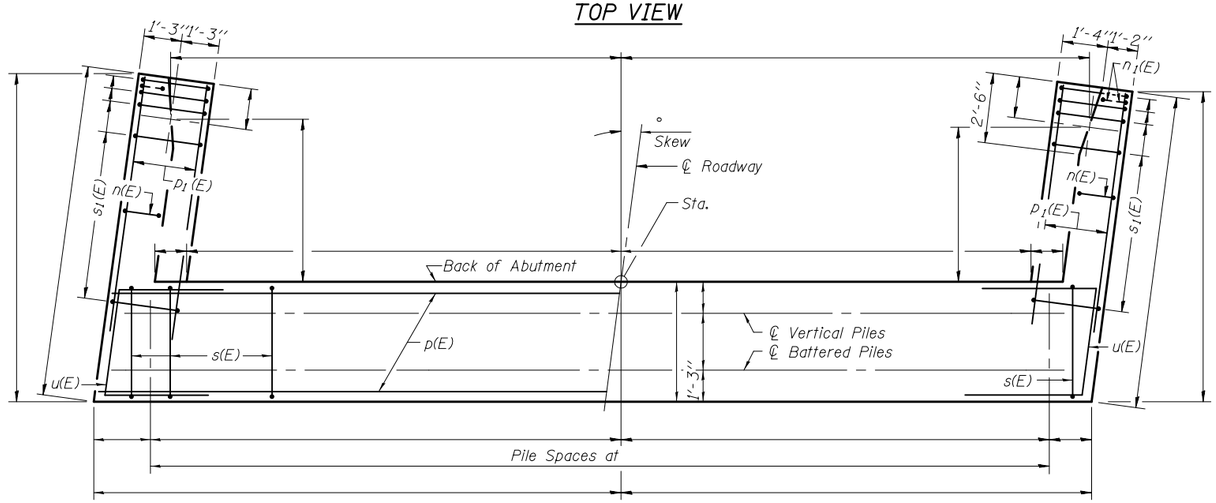
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



ELEVATION

TOP VIEW



PLAN-PILE CAP

ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
$h_1(E)$		#5		
$h_2(E)$		#5		
$h_3(E)$		#4		
$h_4(E)$		#4		
$h_5(E)$		#6		
n(E)		#6		
$n_1(E)$		#6		
p(E)		#7		
$p_1(E)$		#7		
s(E)		#4		
$s_1(E)$		#4		
u(E)		#6		
v(E)		#5		
$v_1(E)$		#4		
$v_2(E)$		#6		
$v_3(E)$		#6		
$v_4(E)$		#6		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Concrete Encasement		Cu. Yd.		
Concrete Sealer		Sq. Ft.		

For details of Bar Splicers, see sheet -of -.
For details of piles and Concrete Encasement, see sheet - of -.

A-1-R (<30°) 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

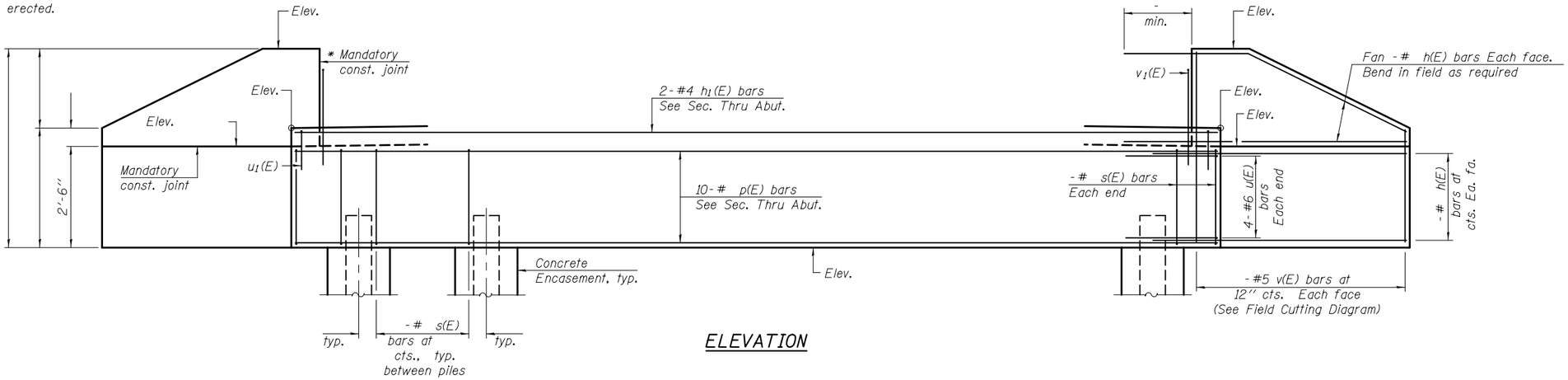
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

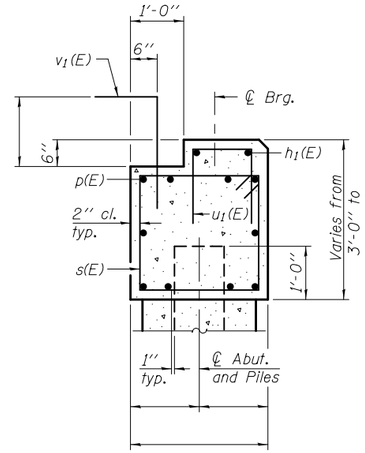
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT

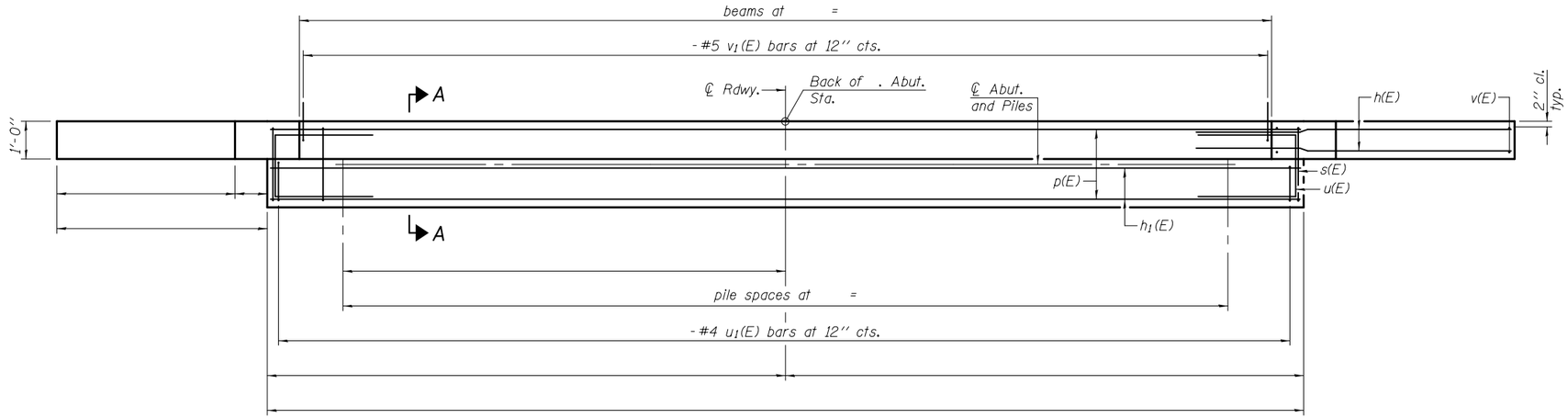
* Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION



SECTION A-A



PLAN

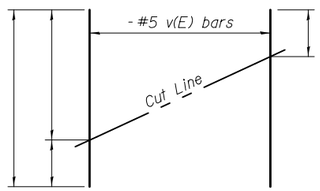
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$	2	#4		
p(E)	10	#		
s(E)		#		
u(E)	8	#6		
$u_1(E)$		#4		
v(E)		#5		
$v_1(E)$		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Concrete Encasement		Cu. Yd.		

For details of piles and Concrete Encasement, see sheet - of -.

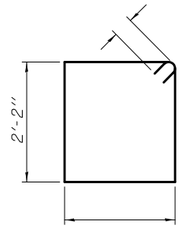
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

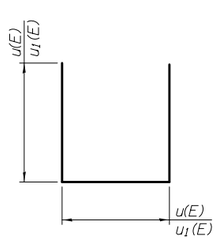


FIELD CUTTING DIAGRAM

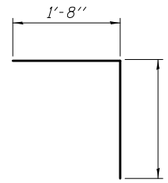
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BAR s(E)



BARS u(E) & $u_1(E)$



BAR $v_1(E)$

AD-11-0 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

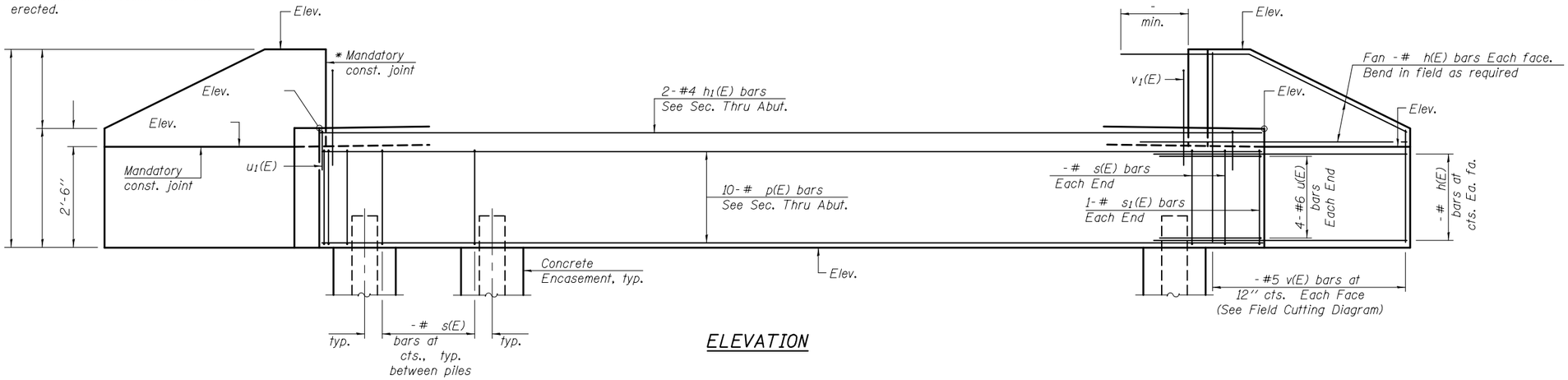
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

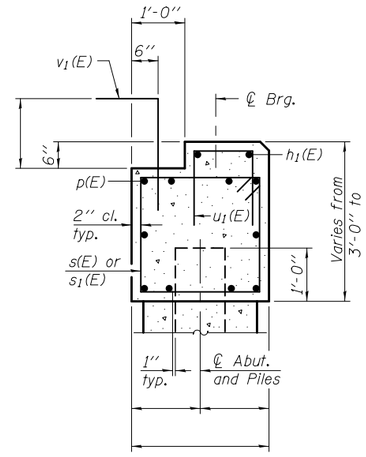
CONTRACT NO.

ILLINOIS FED. AID PROJECT

* Cast top of wingwall flush with exterior beam face after beams have been erected.

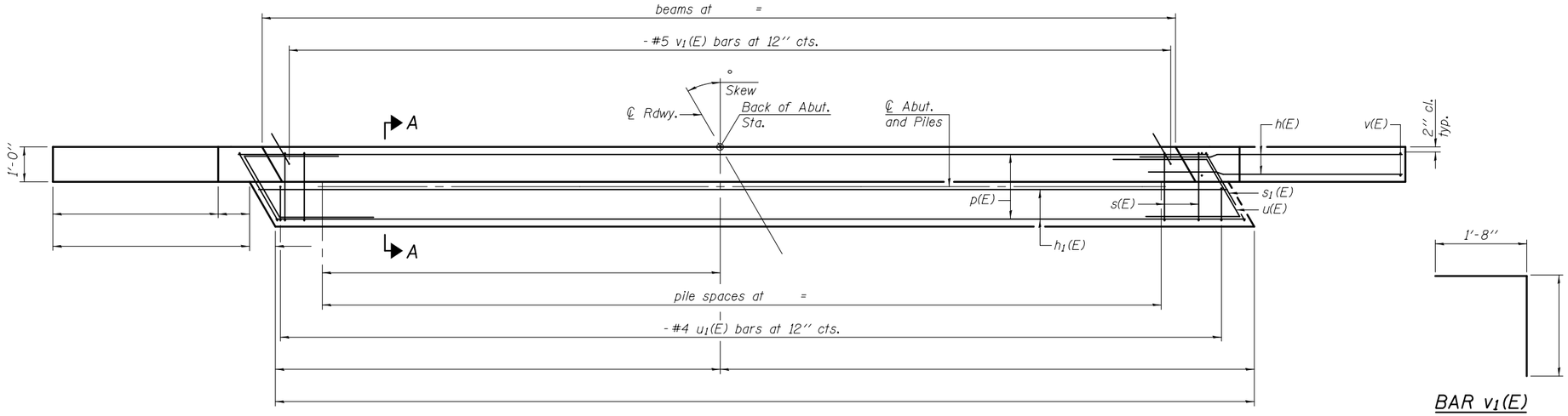


ELEVATION



SECTION A-A

(Dimensions are at Rt. L's)



PLAN

BAR v1(E)

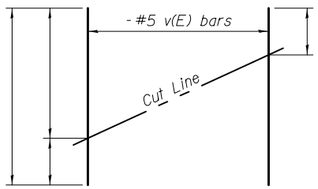
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h1(E)	2	#4		
p(E)	10	#		
s(E)		#		
s1(E)		#		
u(E)	8	#6		
u1(E)		#4		
v(E)		#5		
v1(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

For details of piles and Concrete Encasement, see sheet - of -.

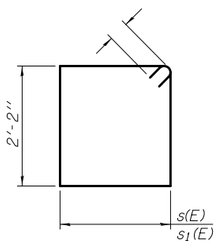
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

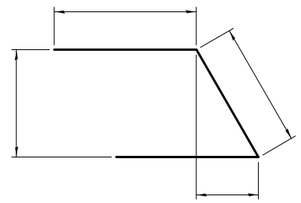


FIELD CUTTING DIAGRAM

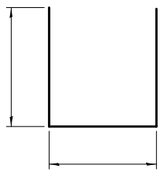
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)



BAR u1(E)

AD-11-L 7-1-10

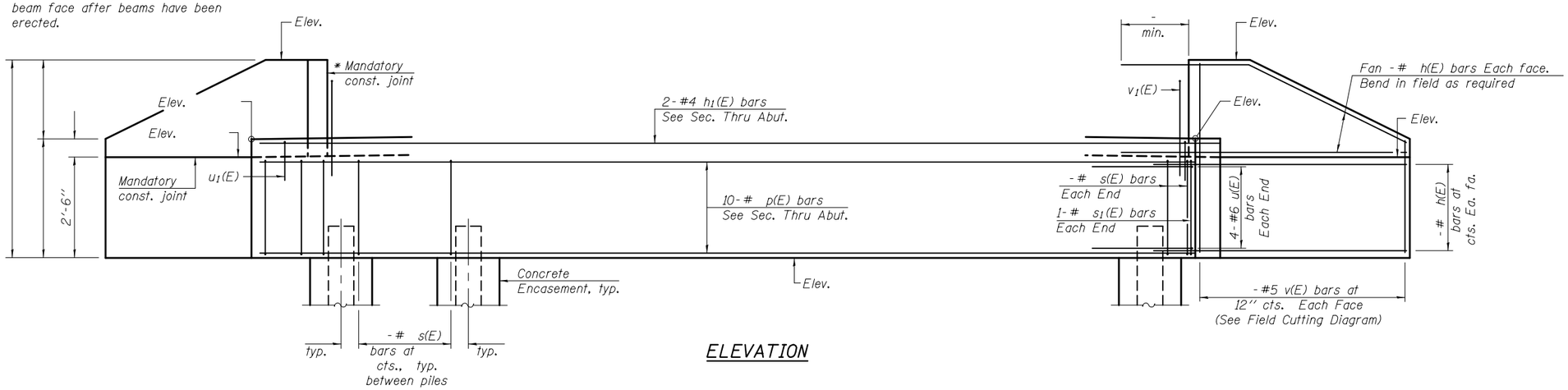
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

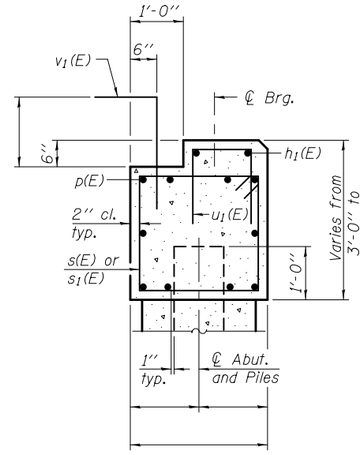
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

* Cast top of wingwall flush with exterior beam face after beams have been erected.

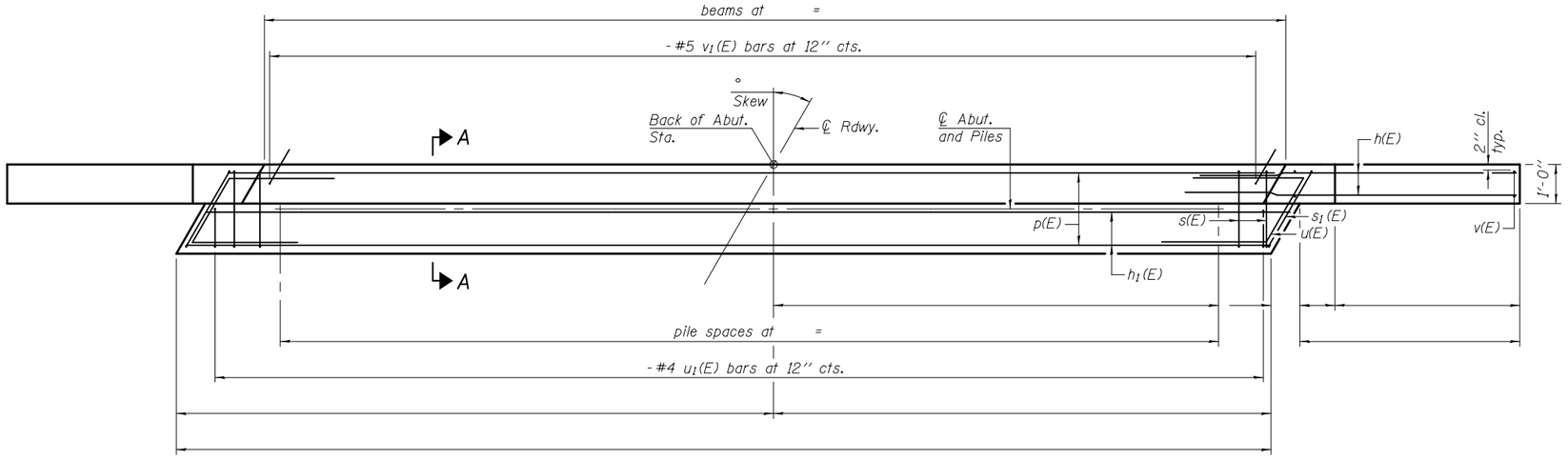


ELEVATION



SECTION A-A

(Dimensions are at Rt. L's)



PLAN

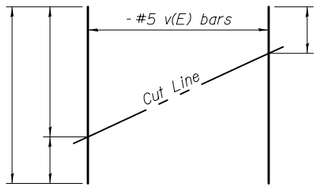
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$		#		
$h_1(E)$	2	#4		
$p(E)$	10	#		
$s(E)$		#		
$s_1(E)$		#		
$u(E)$	8	#6		
$u_1(E)$		#4		
$v(E)$		#5		
$v_1(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

For details of piles and Concrete Encasement, see sheet - of -.

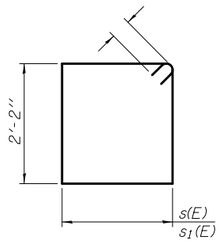
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

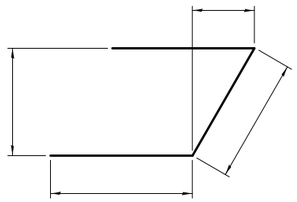


FIELD CUTTING DIAGRAM

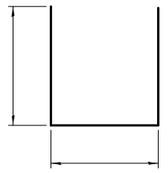
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



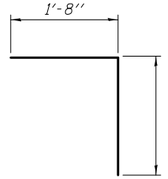
BARS s(E) & s_1(E)



BAR u(E)



BAR u_1(E)



BAR v_1(E)

AD-11-R 7-1-10

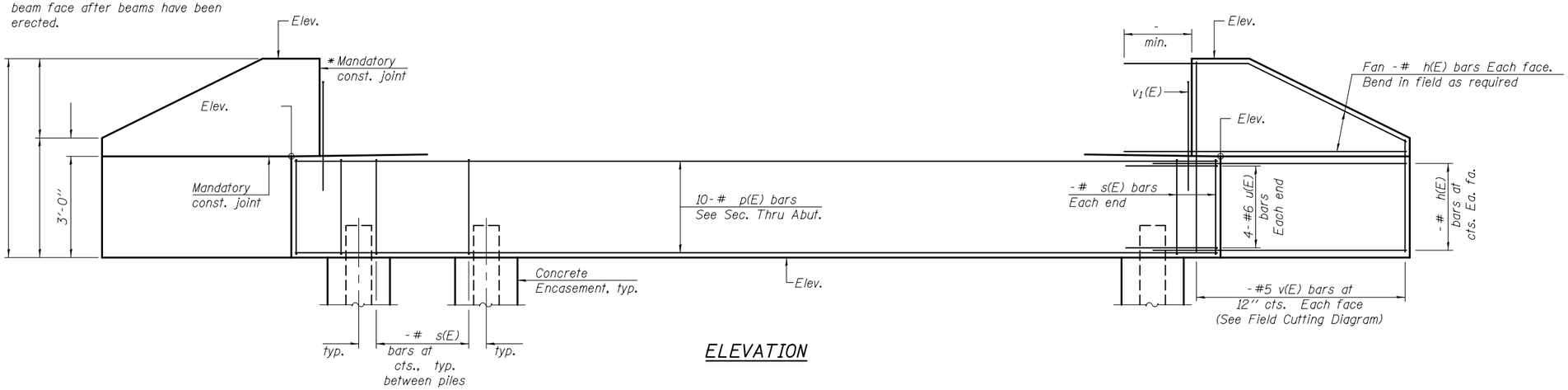
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

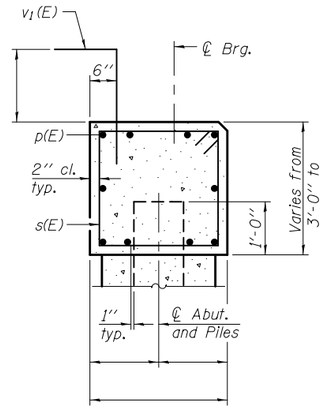
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

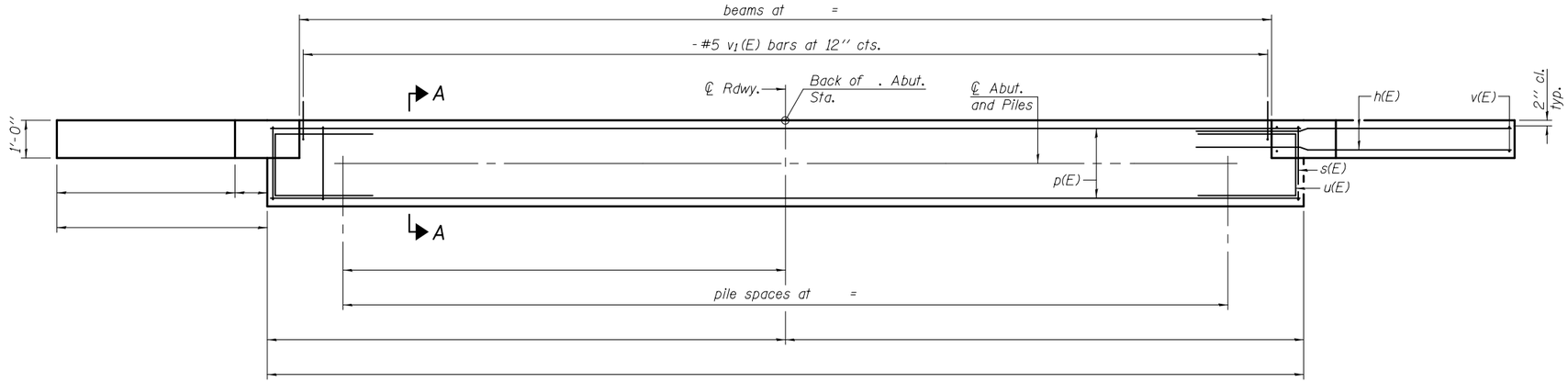
* Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION



SECTION A-A



PLAN

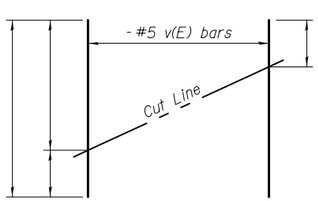
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
p(E)	10	#		
s(E)		#		
u(E)	8	#6		
v(E)		#5		
v1(E)		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile.		Each		
Concrete Encasement		Cu. Yd.		

For details of piles and Concrete Encasement, see sheet - of -.

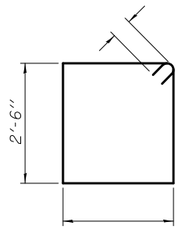
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

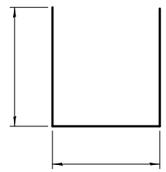


FIELD CUTTING DIAGRAM

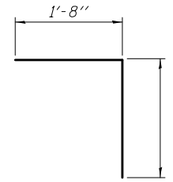
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BAR s(E)



BAR u(E)



BAR v1(E)

AD-1721-0 7-1-10

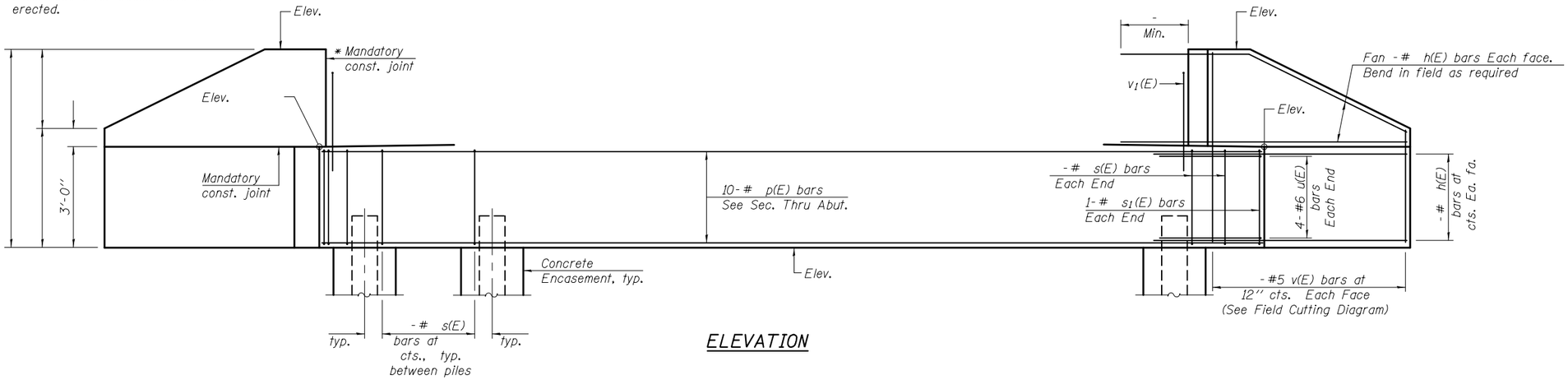
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

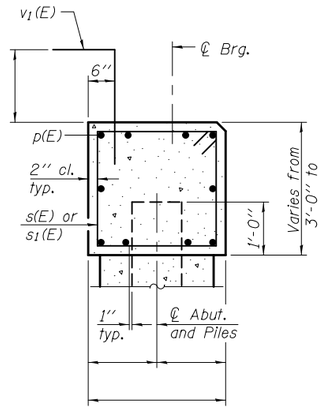
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

* Cast top of wingwall flush with exterior beam face after beams have been erected.

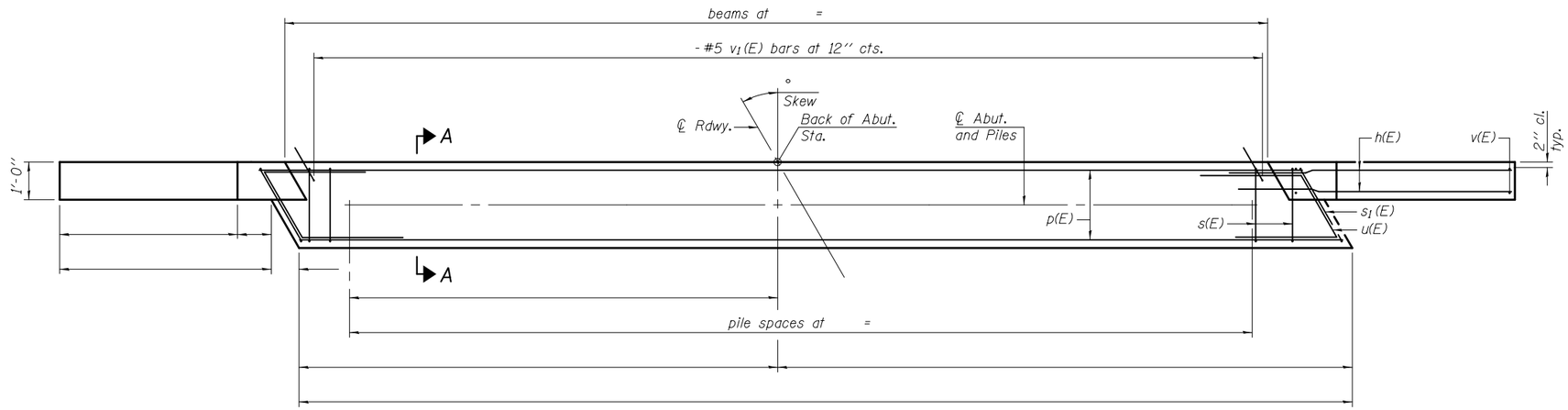


ELEVATION



SECTION A-A

(Dimensions are at Rt. L's)



PLAN

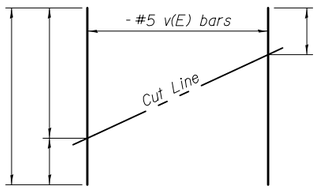
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
p(E)	10	#		
s(E)		#		
s1(E)		#		
u(E)	8	#6		
v(E)		#5		
v1(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

For details of piles and Concrete Encasement, see sheet - of -.

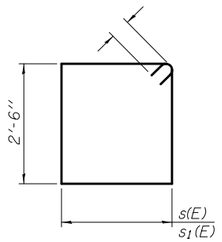
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

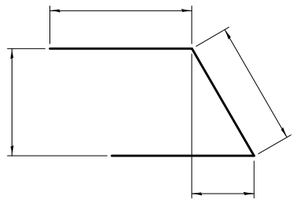


FIELD CUTTING DIAGRAM

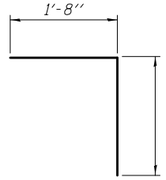
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)



BAR v1(E)

AD-1721-L 7-1-10

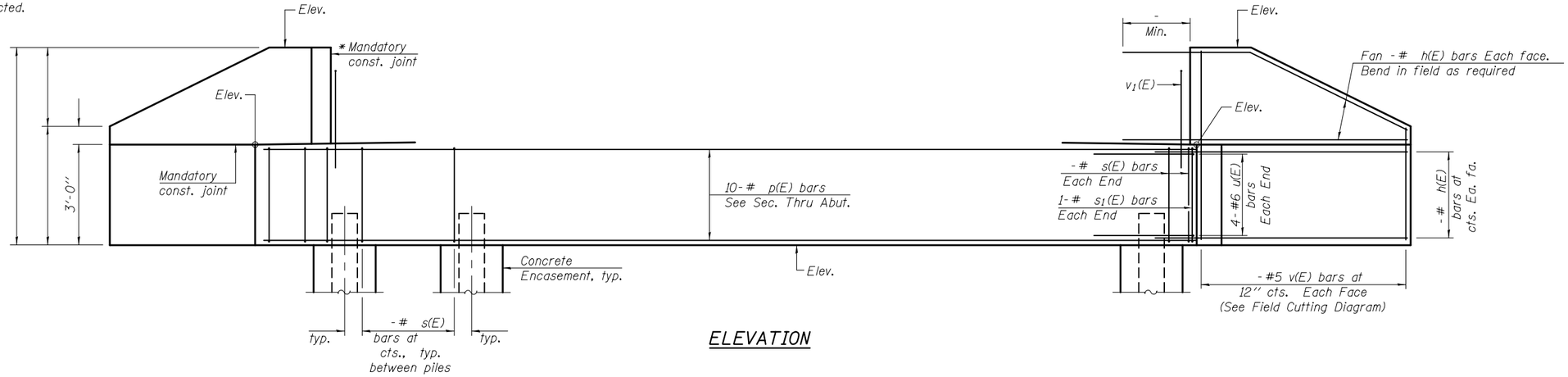
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

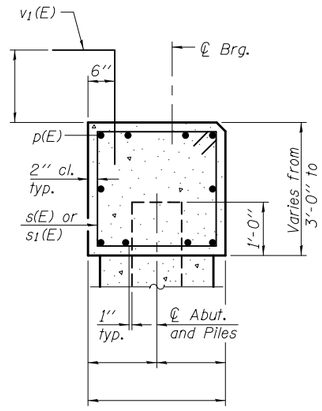
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

* Cast top of wingwall flush with exterior beam face after beams have been erected.

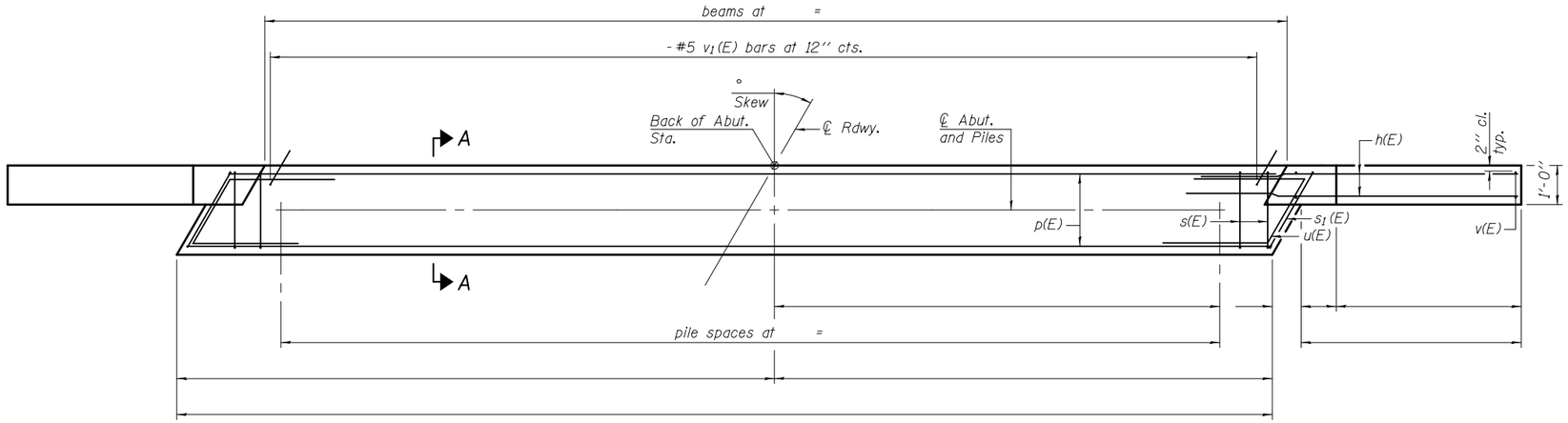


ELEVATION



SECTION A-A

(Dimensions are at Rt. L's)



PLAN

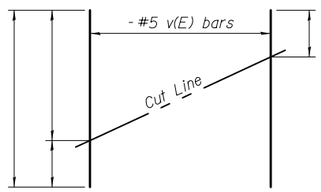
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
p(E)	10	#		
s(E)		#		
s1(E)		#		
u(E)	8	#6		
v(E)		#5		
v1(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

For details of piles and Concrete Encasement, see sheet - of -.

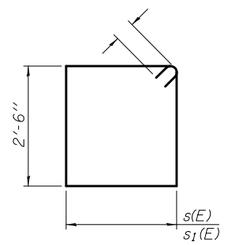
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

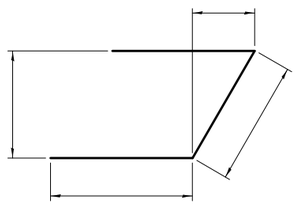


FIELD CUTTING DIAGRAM

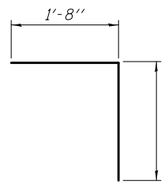
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)



BAR v1(E)

AD-1721-R 7-1-10

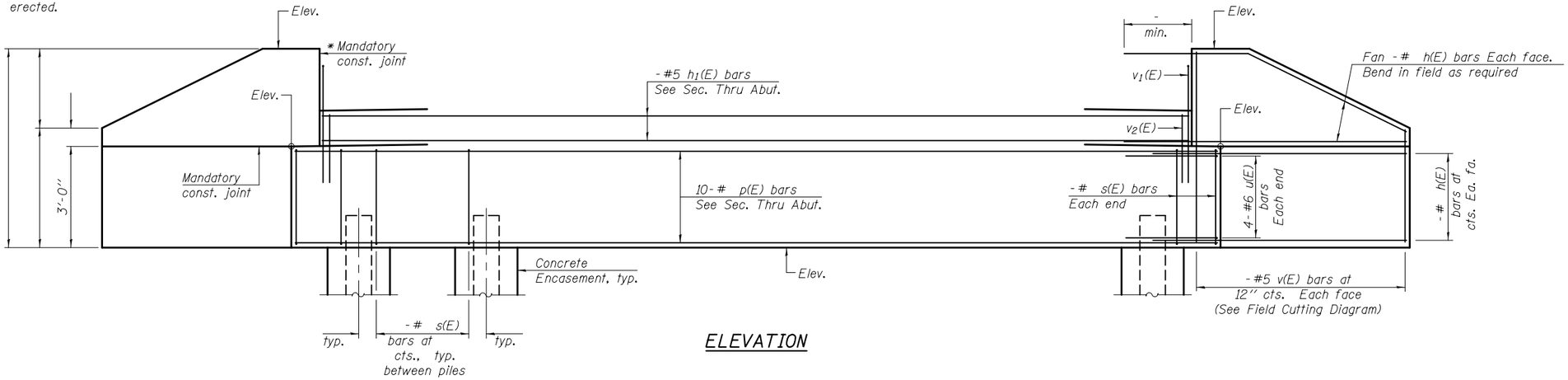
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

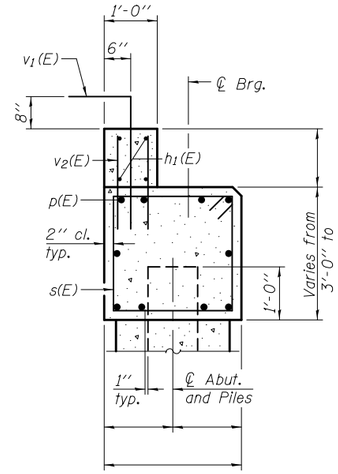
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

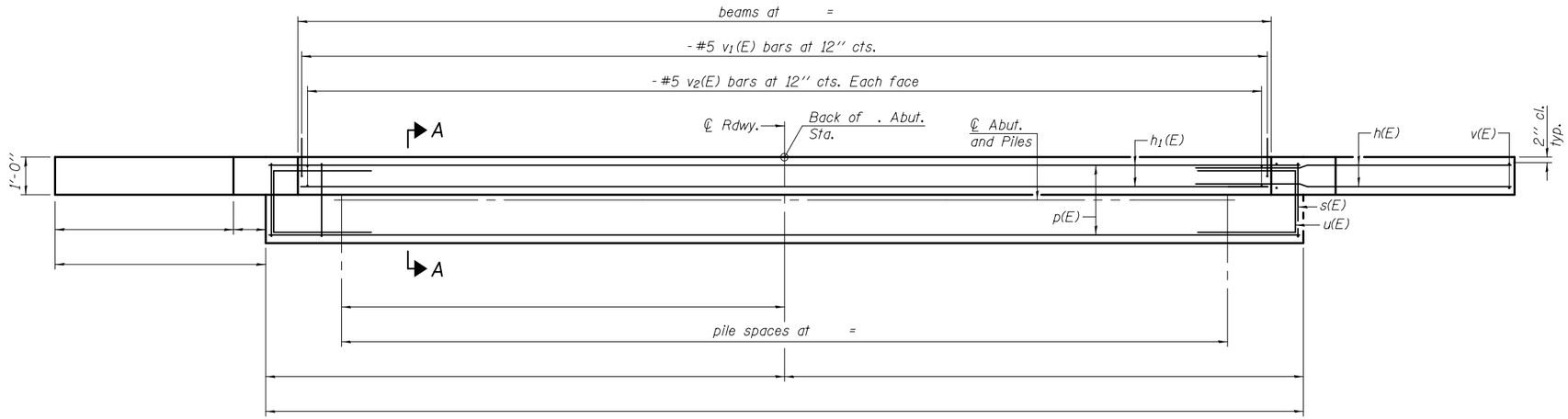
* Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION



SECTION A-A



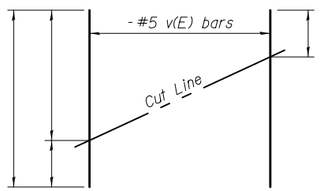
PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)		#5		
p(E)	10	#		
s(E)		#		
u(E)	8	#6		
v(E)		#5		
v_1(E)		#5		
v_2(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

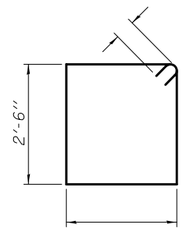
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

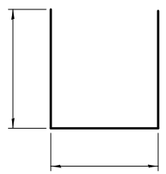


FIELD CUTTING DIAGRAM

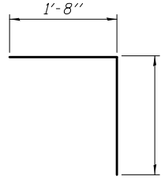
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BAR s(E)



BAR u(E)



BAR v_1(E)

Notes:
For details of piles and Concrete Encasement, see sheet - of -.
Cast backwall after beams and concrete wearing surface, if applicable, have been erected.

AD-2742-0 7-1-10

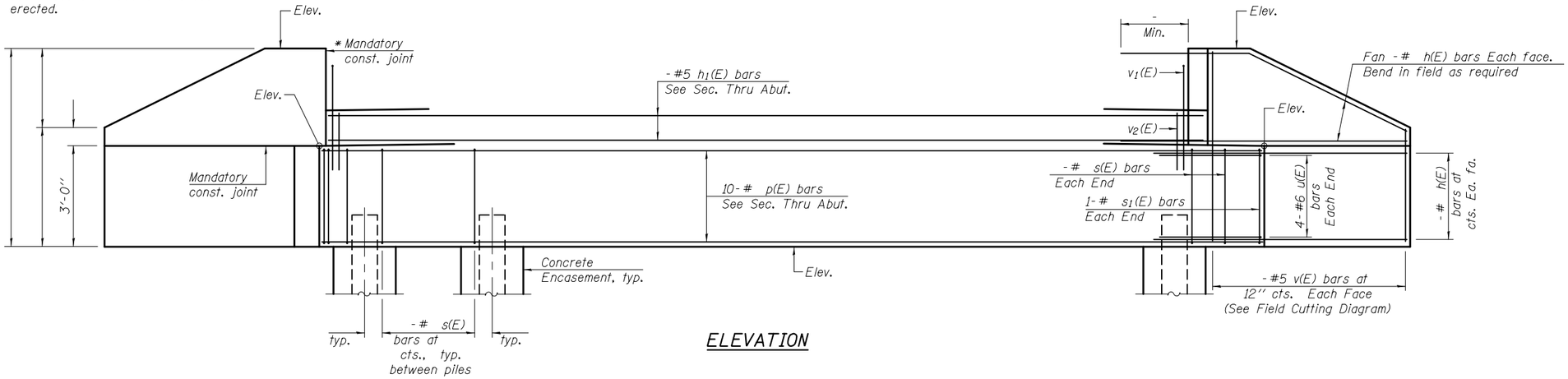
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

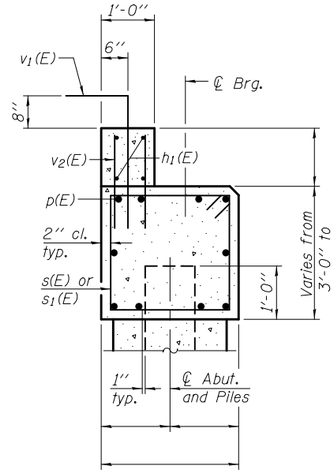
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

* Cast top of wingwall flush with exterior beam face after beams have been erected.

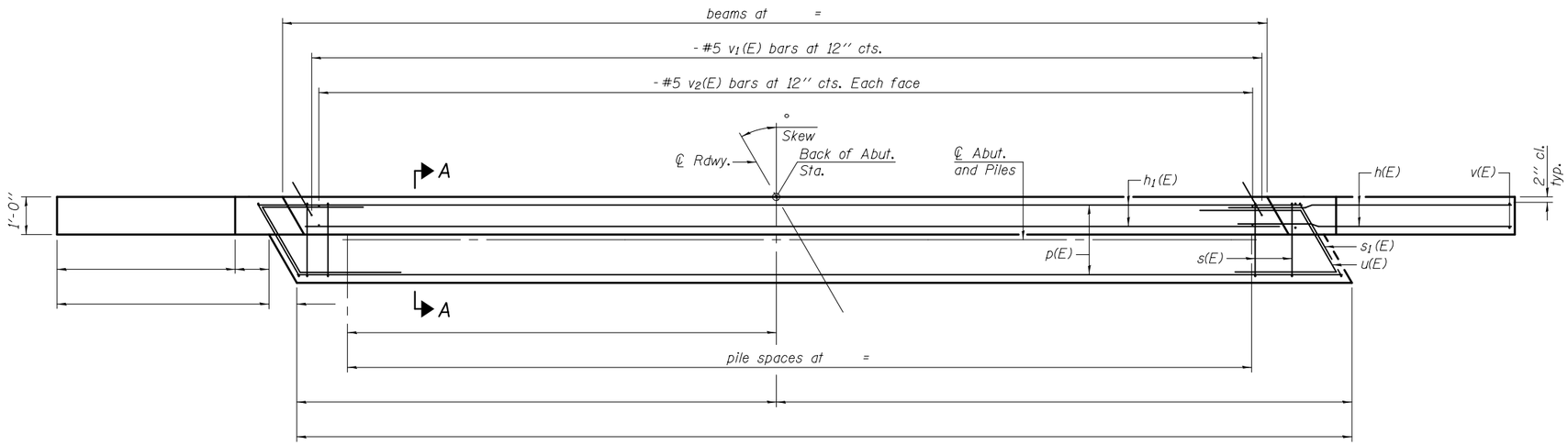


ELEVATION



SECTION A-A

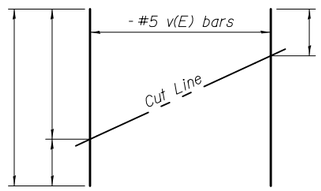
(Dimensions are at Rt. L's)



PLAN

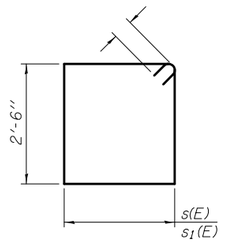
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

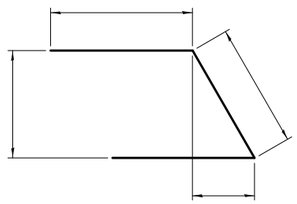


FIELD CUTTING DIAGRAM

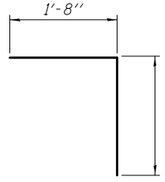
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s_1(E)



BAR u(E)



BAR v_1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)		#5		
p(E)	10	#		
s(E)		#		
s_1(E)		#		
u(E)	8	#6		
v(E)		#5		
v_1(E)		#5		
v_2(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

Notes:
For details of piles and Concrete Encasement, see sheet - of -.
Cast backwall after beams and concrete wearing surface, if applicable, have been erected.

AD-2742-L 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

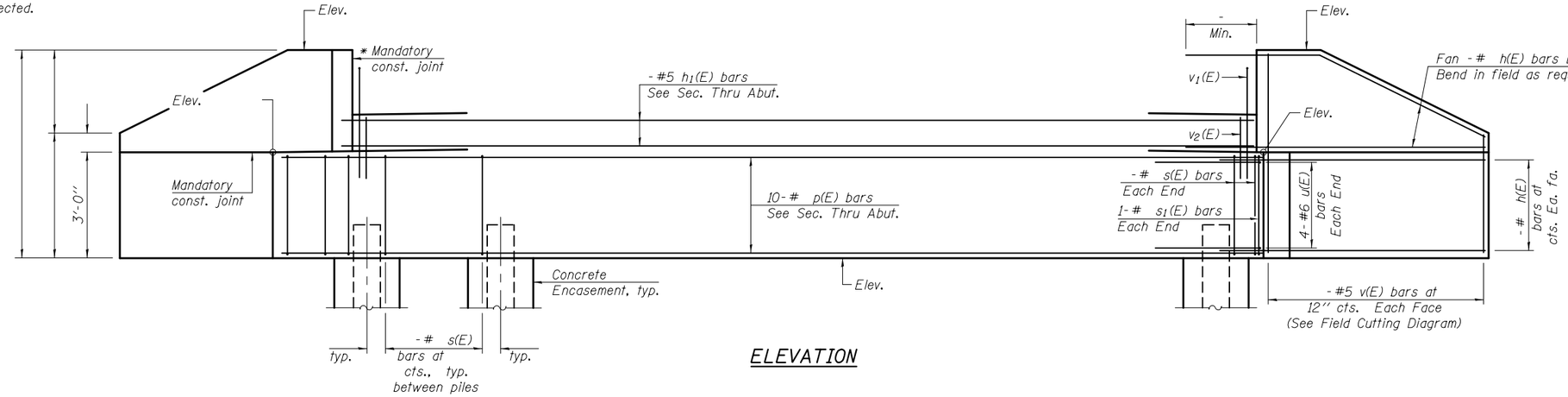
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

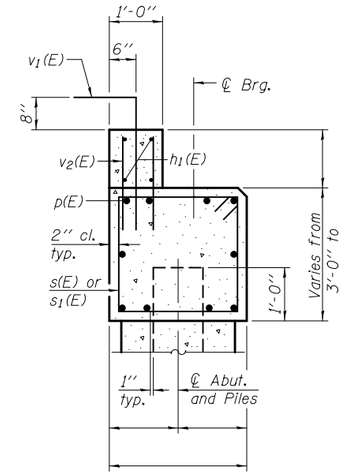
CONTRACT NO.

ILLINOIS FED. AID PROJECT

* Cast top of wingwall flush with exterior beam face after beams have been erected.

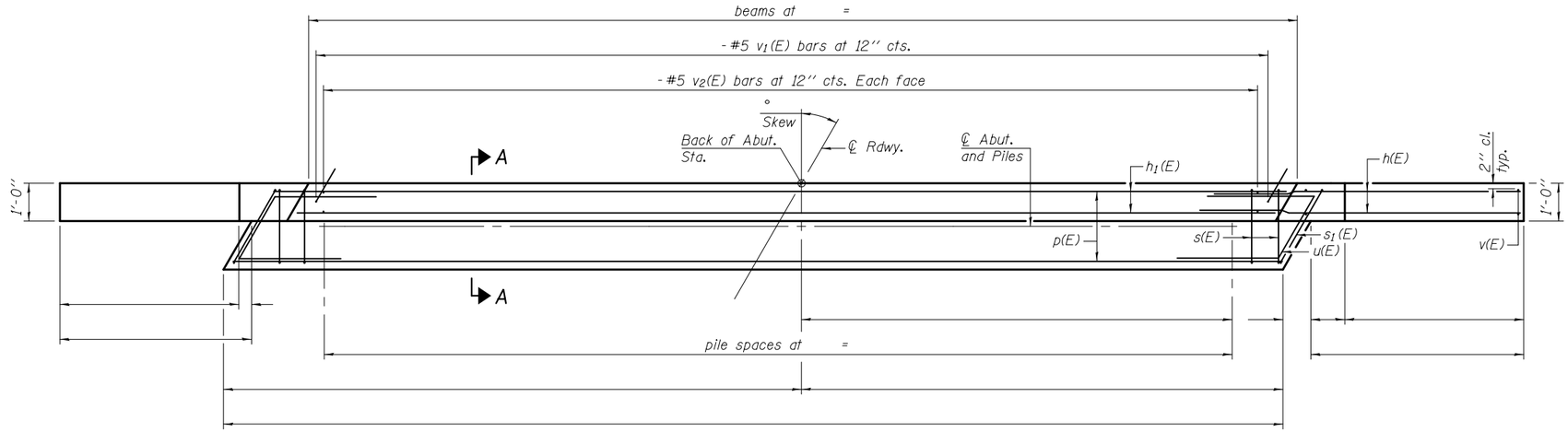


ELEVATION



SECTION A-A

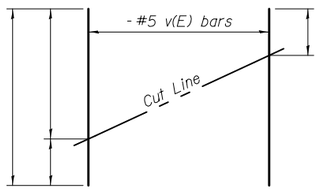
(Dimensions are at Rt. L's)



PLAN

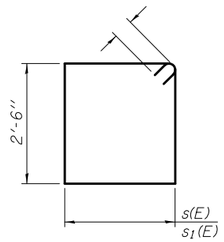
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

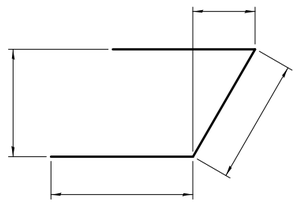


FIELD CUTTING DIAGRAM

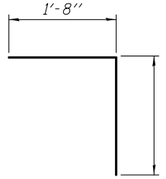
Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s_1(E)



BAR u(E)



BAR v_1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)		#5		
p(E)	10	#		
s(E)		#		
s_1(E)		#		
u(E)	8	#6		
v(E)		#5		
v_1(E)		#5		
v_2(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Encasement			Cu. Yd.	

Notes:
For details of piles and Concrete Encasement, see sheet - of -.
Cast backwall after beams and concrete wearing surface, if applicable, have been erected.

AD-2742-R 7-1-10

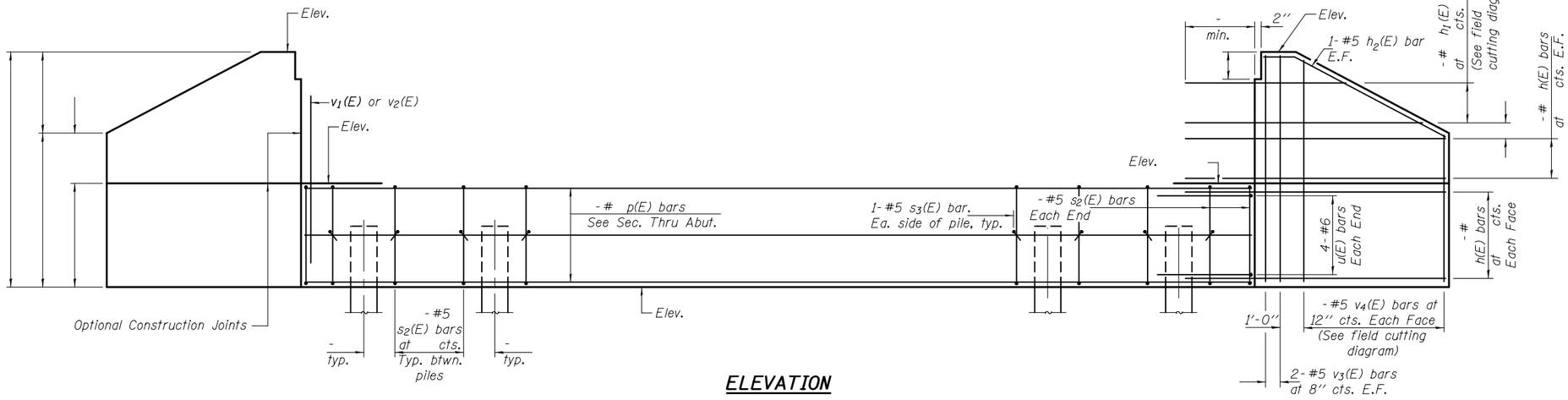
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

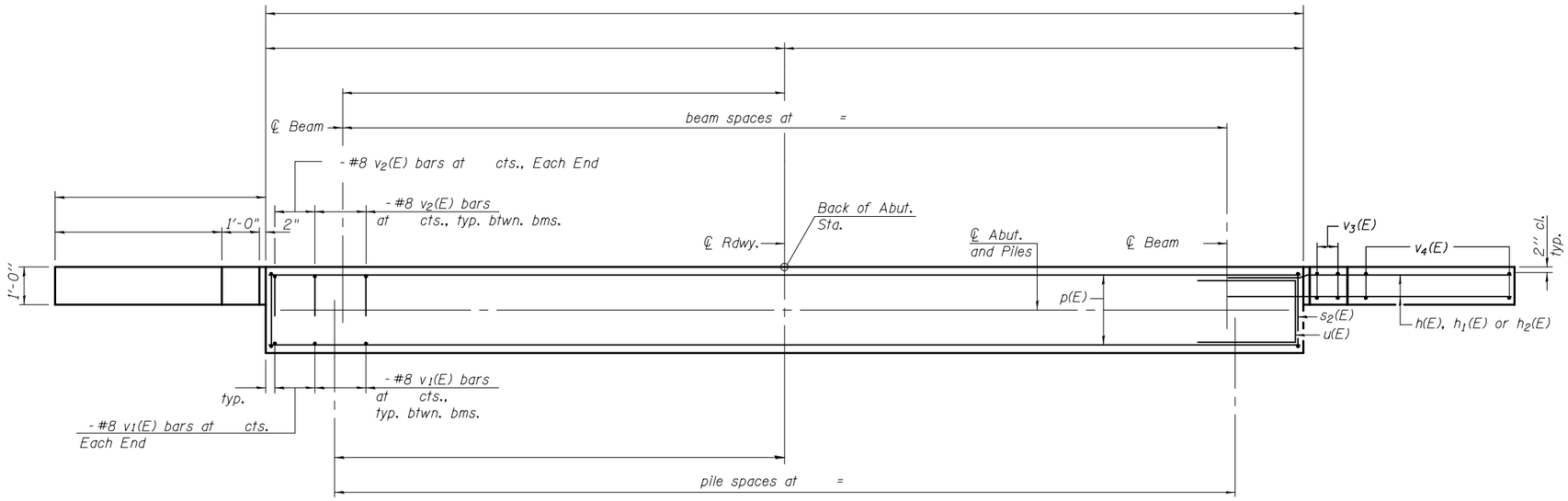
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

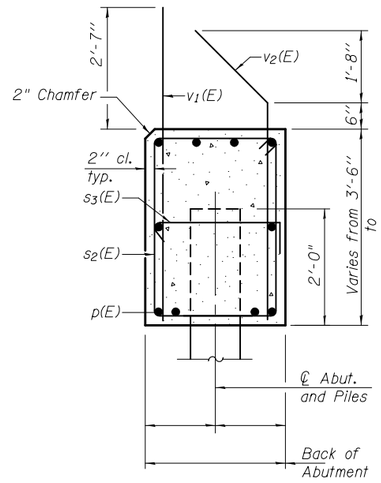
Notes:
Pour steps monolithically with cap.



ELEVATION



PLAN



SEC. THRU ABUT.

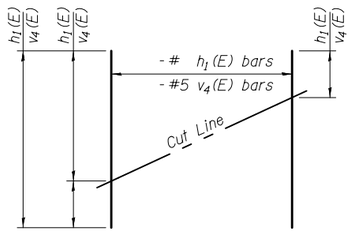
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
u(E)	8	#6		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#8	6'-2"	
$v_3(E)$		#5		
$v_4(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

For details of piles see sheet of .

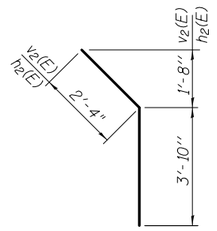
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

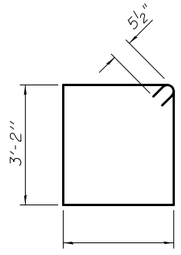


FIELD CUTTING DIAGRAM

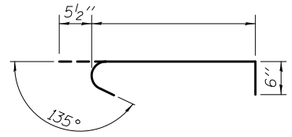
Order $h_1(E)$ and $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.



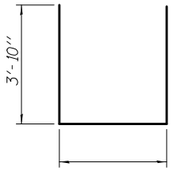
BAR $v_2(E)$ & $h_2(E)$



BAR $s_2(E)$



BAR $s_3(E)$



BAR u(E)

AI-2440-0 8-31-12

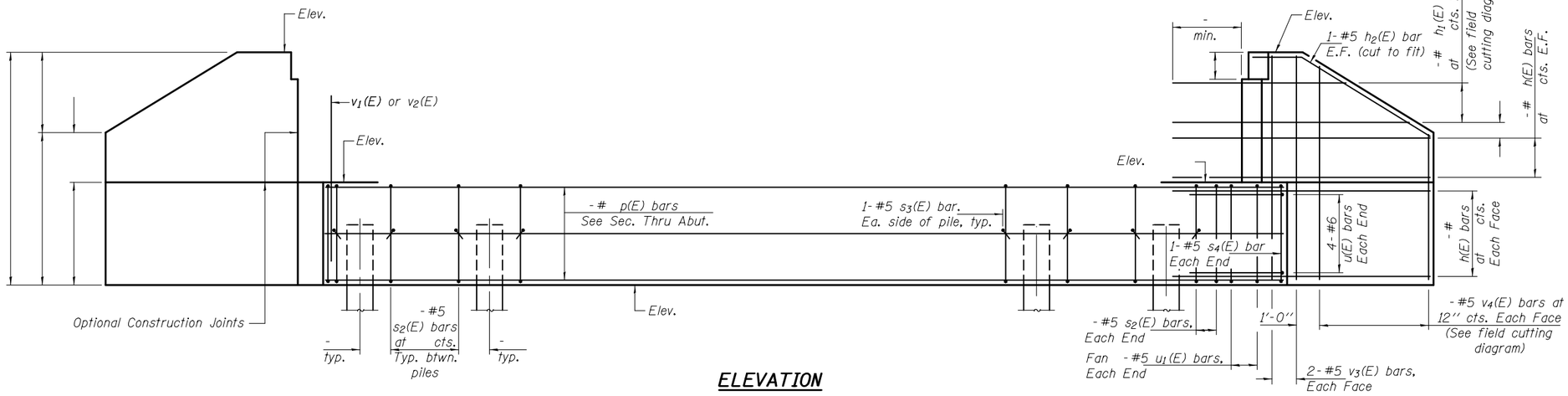
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

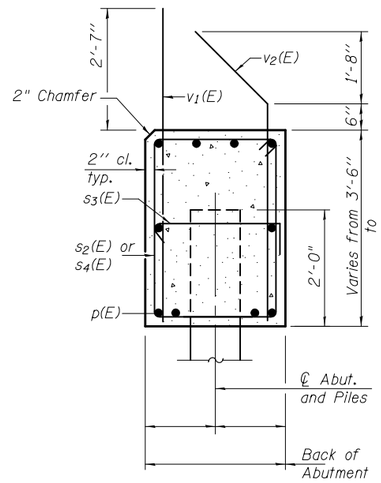
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

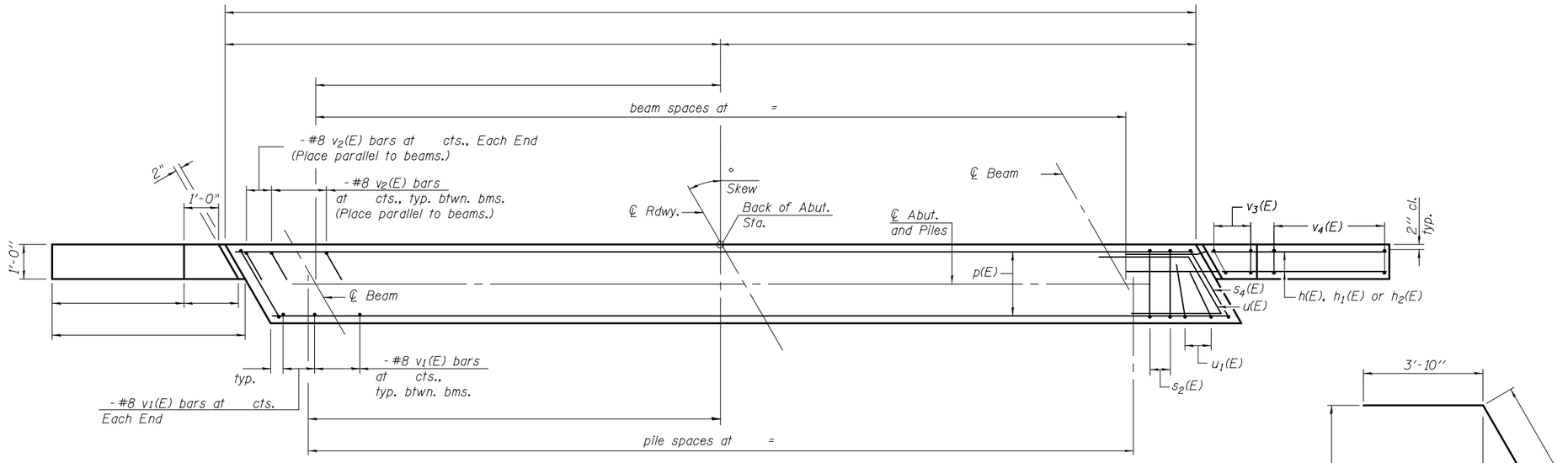


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

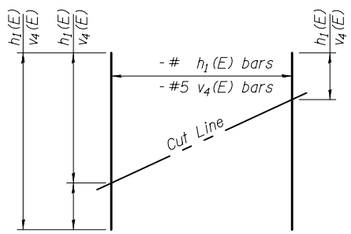
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h1(E)		#		
h2(E)	4	#5		
p(E)		#		
s2(E)		#5		
s3(E)		#5		
s4(E)		#5		
u(E)	8	#6		
u1(E)		#5		
v1(E)		#8	5'-11"	
v2(E)		#8	6'-2"	
v3(E)		#5		
v4(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

For details of piles see sheet of .

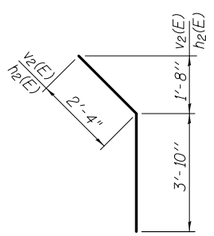
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

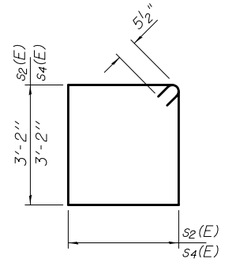


FIELD CUTTING DIAGRAM

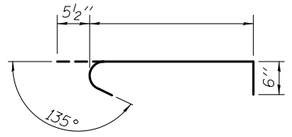
Order $h_1(E)$ and $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.



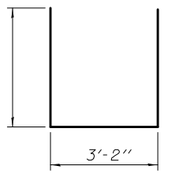
BAR $v_2(E)$ & $h_2(E)$



BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR $u_1(E)$

BAR u(E)

AI-2440-L 8-31-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

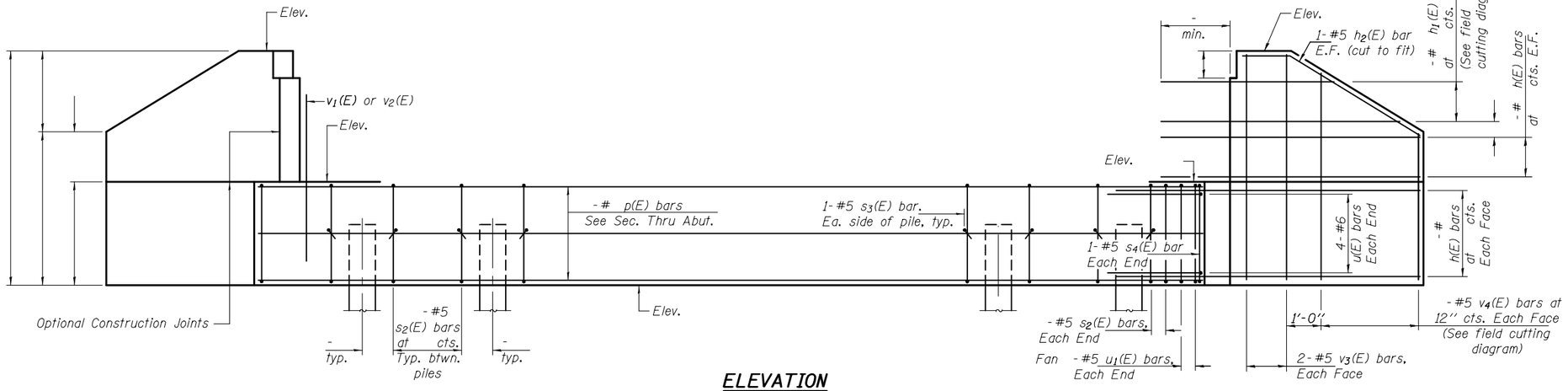
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

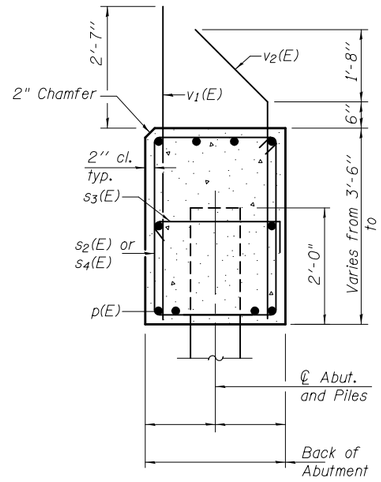
CONTRACT NO.

ILLINOIS FED. AID PROJECT

Notes:
Pour steps monolithically with cap.

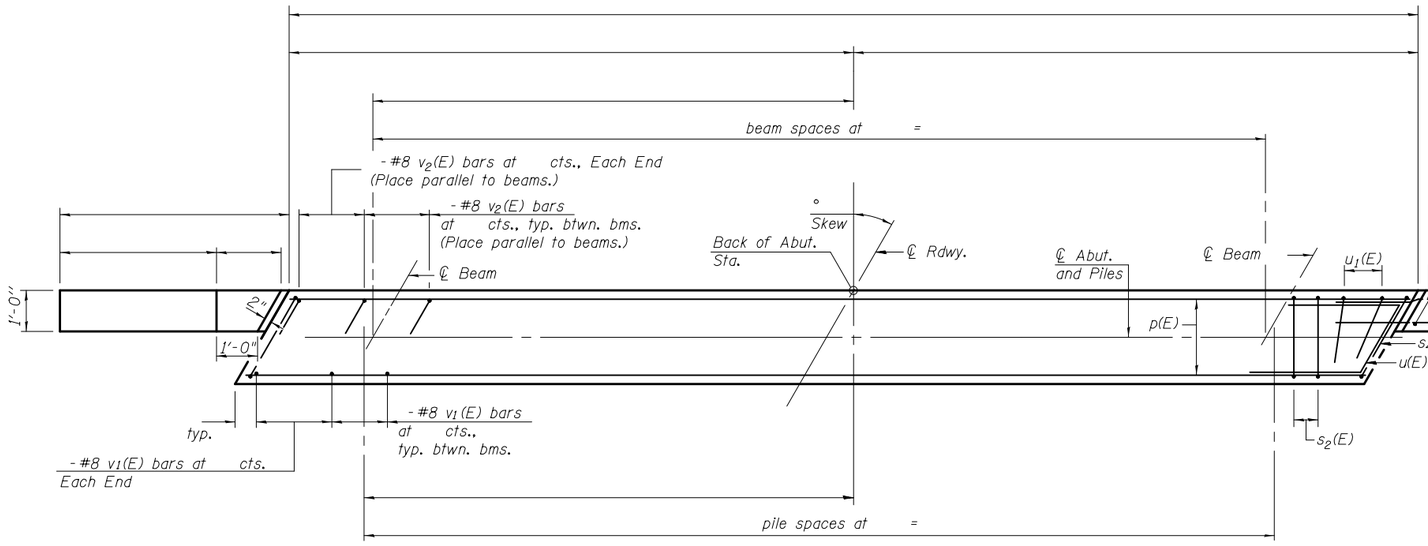


ELEVATION



SEC. THRU ABUT.

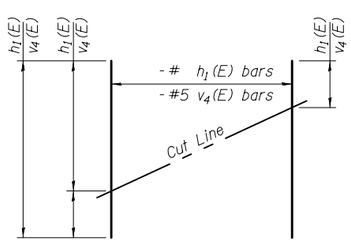
Dimensions at right angles to abutment.



PLAN

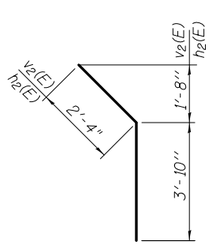
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

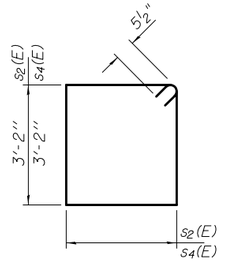


FIELD CUTTING DIAGRAM

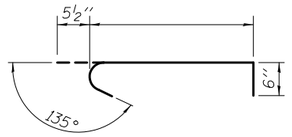
Order $h_1(E)$ and $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.



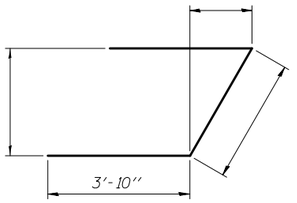
BAR $v_2(E)$ & $h_2(E)$



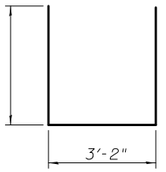
BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR u(E)



BAR $u_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#8	6'-2"	
$v_3(E)$		#5		
$v_4(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

For details of piles see sheet of .

AI-2440-R 8-31-12

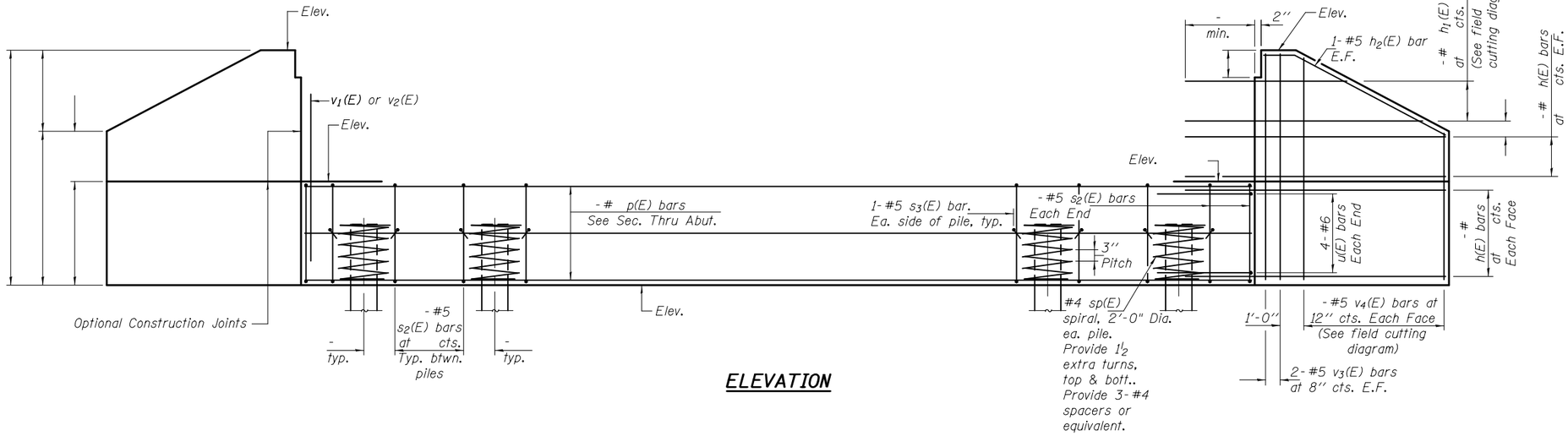
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

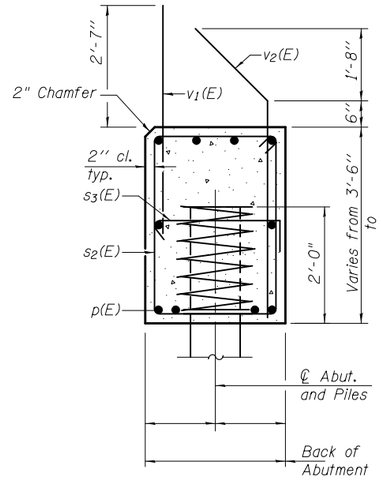
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

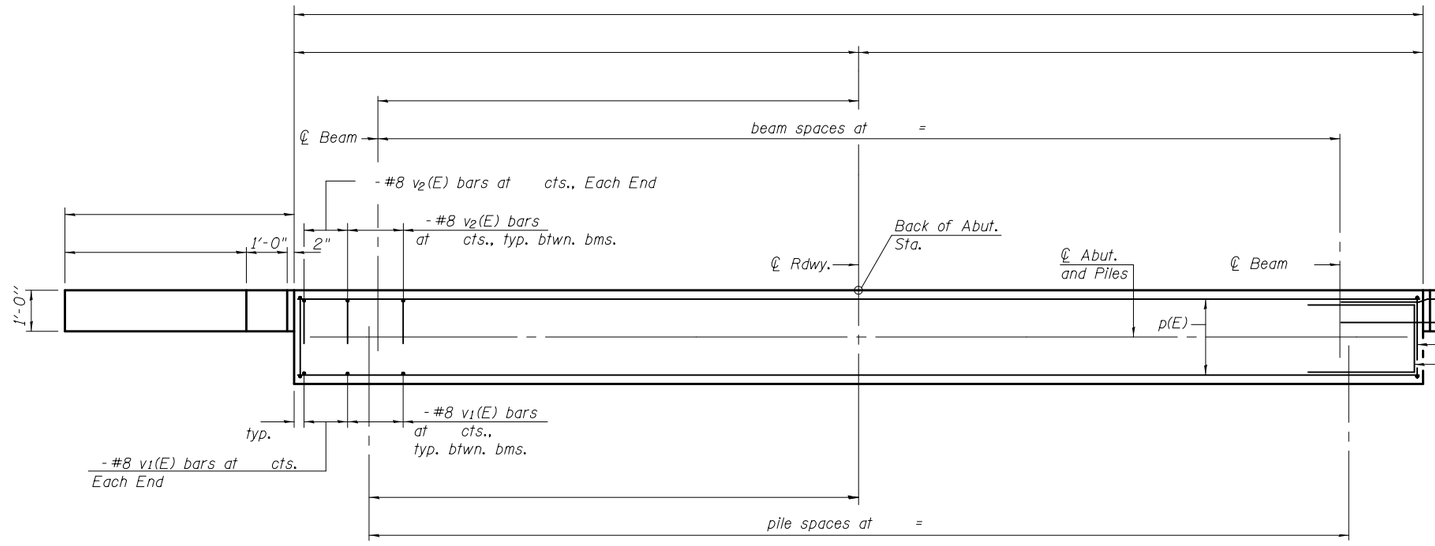
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

BILL OF MATERIAL

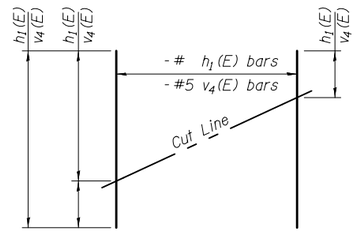
Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)		#		
h_2(E)	4	#5		
p(E)		#		
s_2(E)		#5		
s_3(E)		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
v_1(E)		#8	5'-11"	
v_2(E)		#8	6'-2"	
v_3(E)		#5		
v_4(E)		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

*Length is height of spiral.

For details of piles see sheet of .

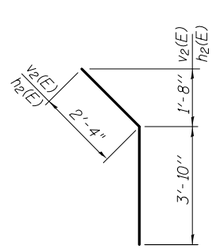
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

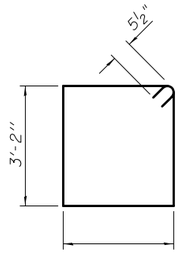


FIELD CUTTING DIAGRAM

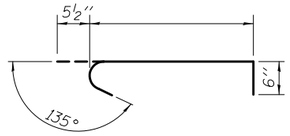
Order h_1(E) and v_4(E) full length. Cut as shown and use remainder of bars in opposite face.



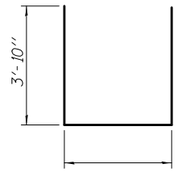
BAR v_2(E) & h_2(E)



BAR s_2(E)



BAR s_3(E)



BAR u(E)

AI-2440S-0 8-31-12

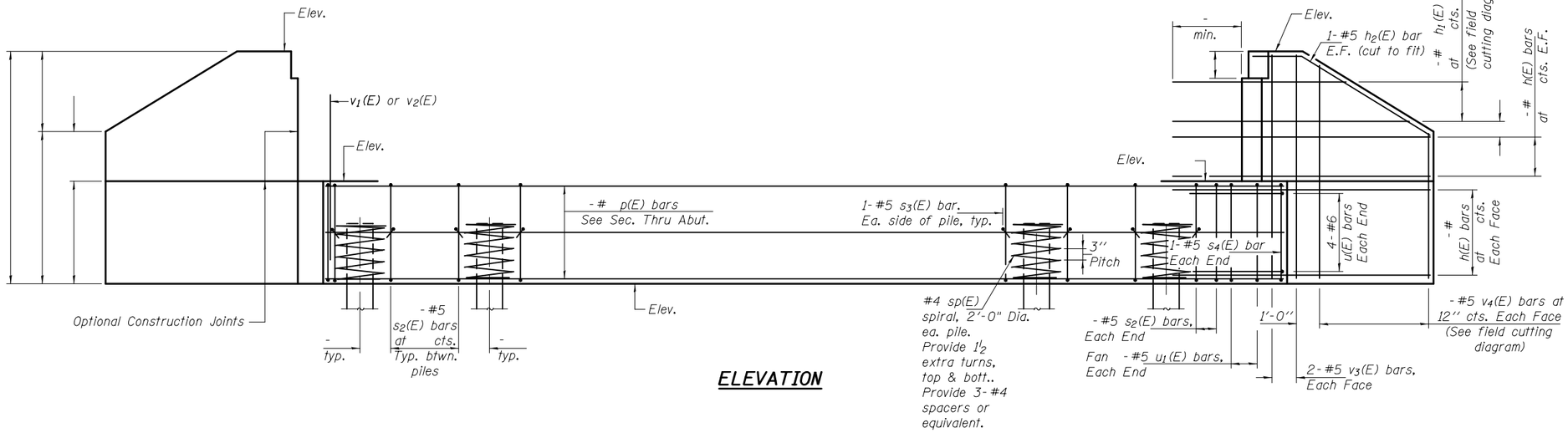
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

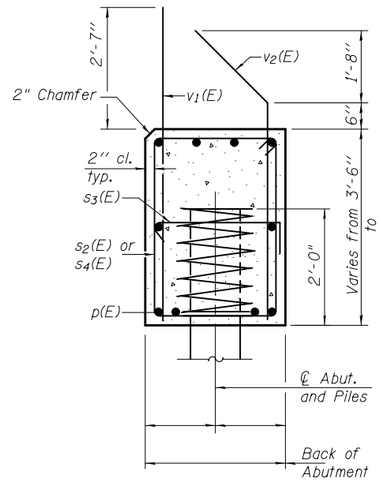
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

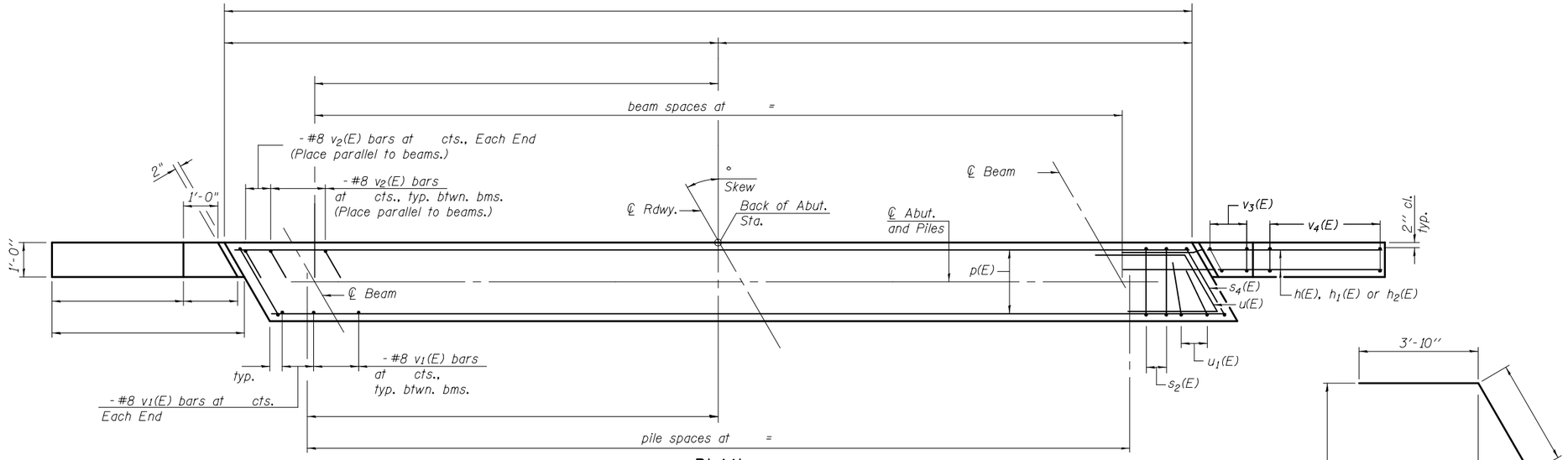


ELEVATION



SEC. THRU ABUT.

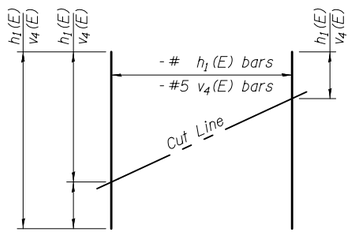
Dimensions at right angles to abutment.



PLAN

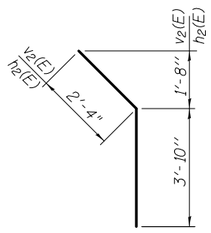
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

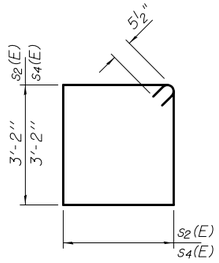


FIELD CUTTING DIAGRAM

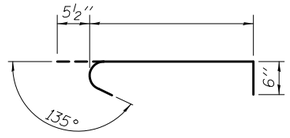
Order $h_1(E)$ and $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR $v_2(E)$ & $h_2(E)$

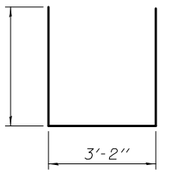


BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$

BAR u(E)



BAR $u_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#8	6'-2"	
$v_3(E)$		#5		
$v_4(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

*Length is height of spiral.
For details of piles see sheet of .

AI-2440S-L 8-31-12

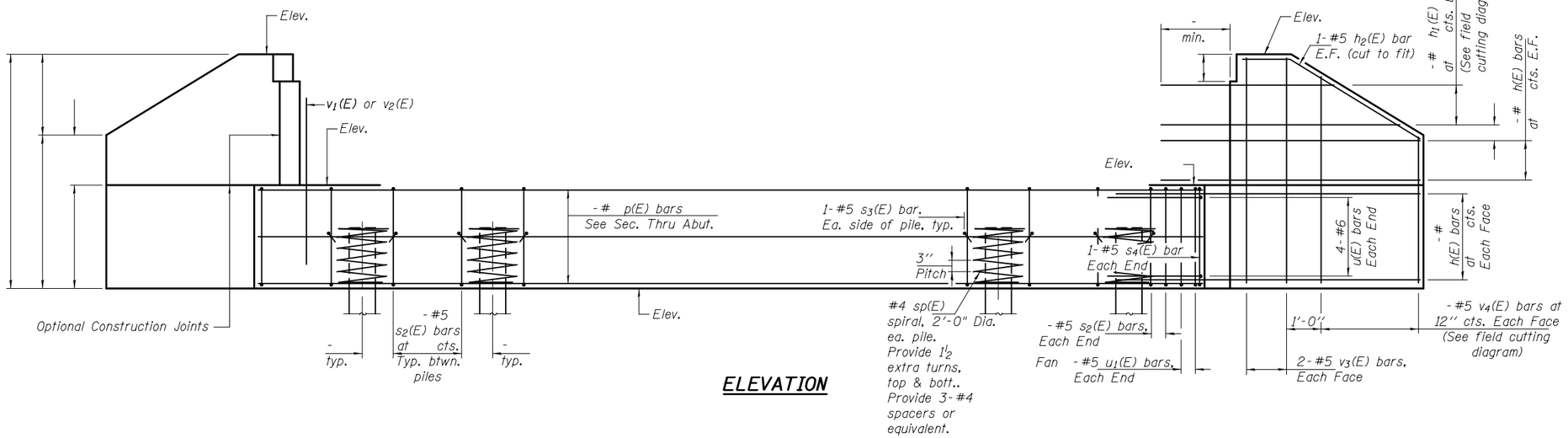
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

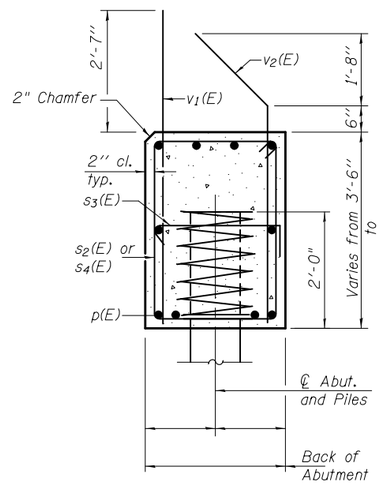
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

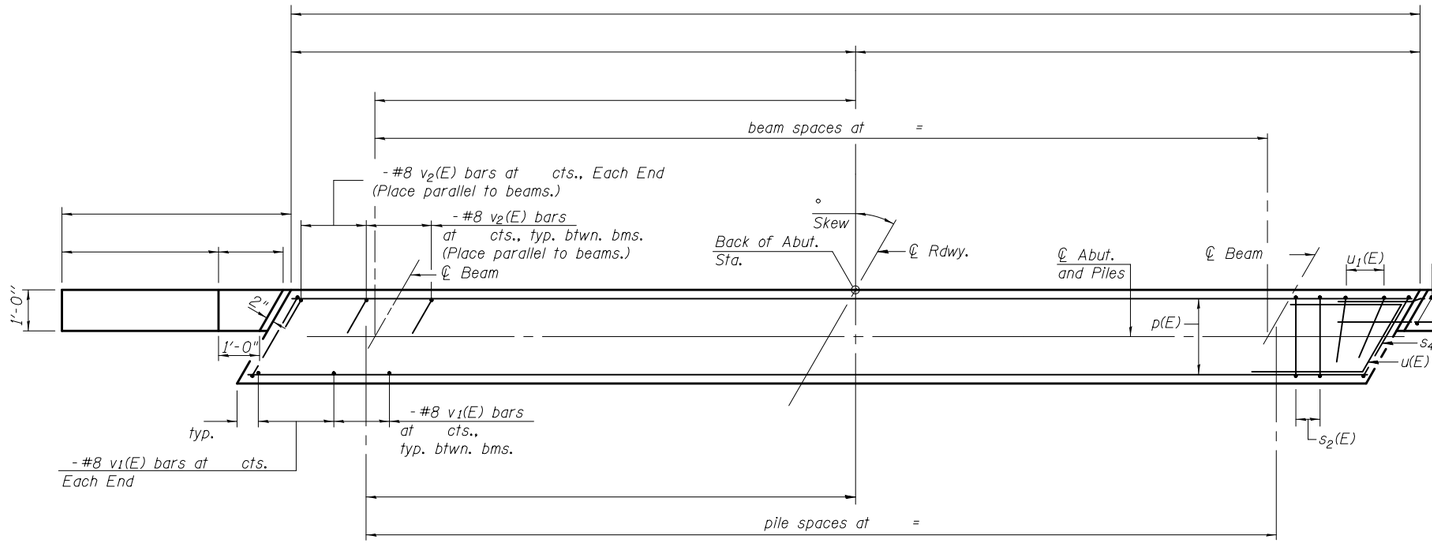


ELEVATION

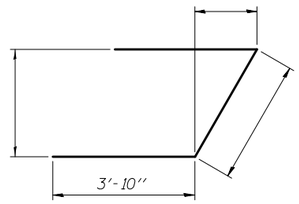


SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN



BAR u(E)

BILL OF MATERIAL

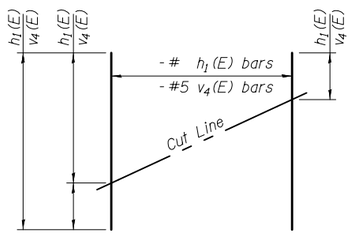
Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#8	6'-2"	
$v_3(E)$		#5		
$v_4(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

* Length is height of spiral.

For details of piles see sheet of .

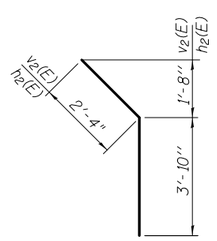
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

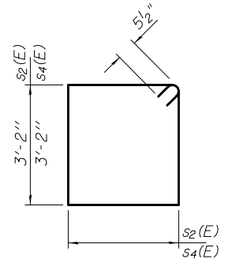


FIELD CUTTING DIAGRAM

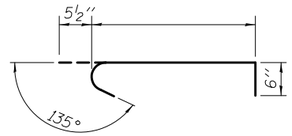
Order $h_1(E)$ and $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.



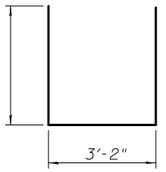
BAR $v_2(E)$ & $h_2(E)$



BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR $u_1(E)$

AI-2440S-R 8-31-12

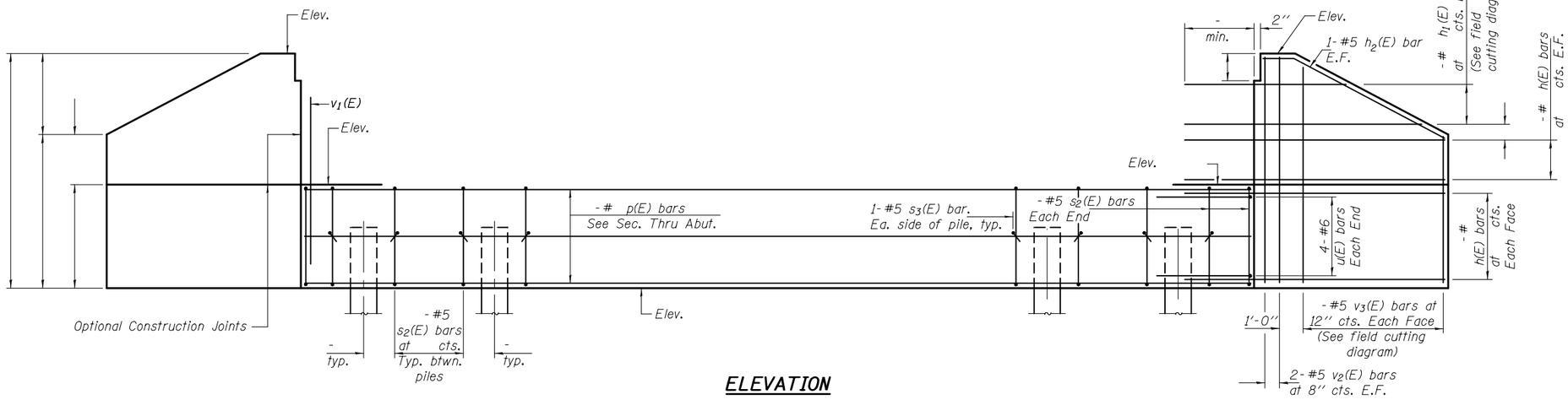
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

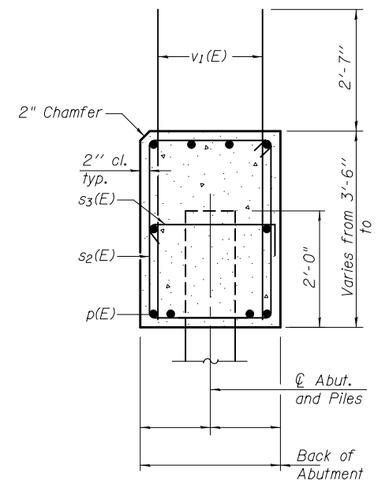
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

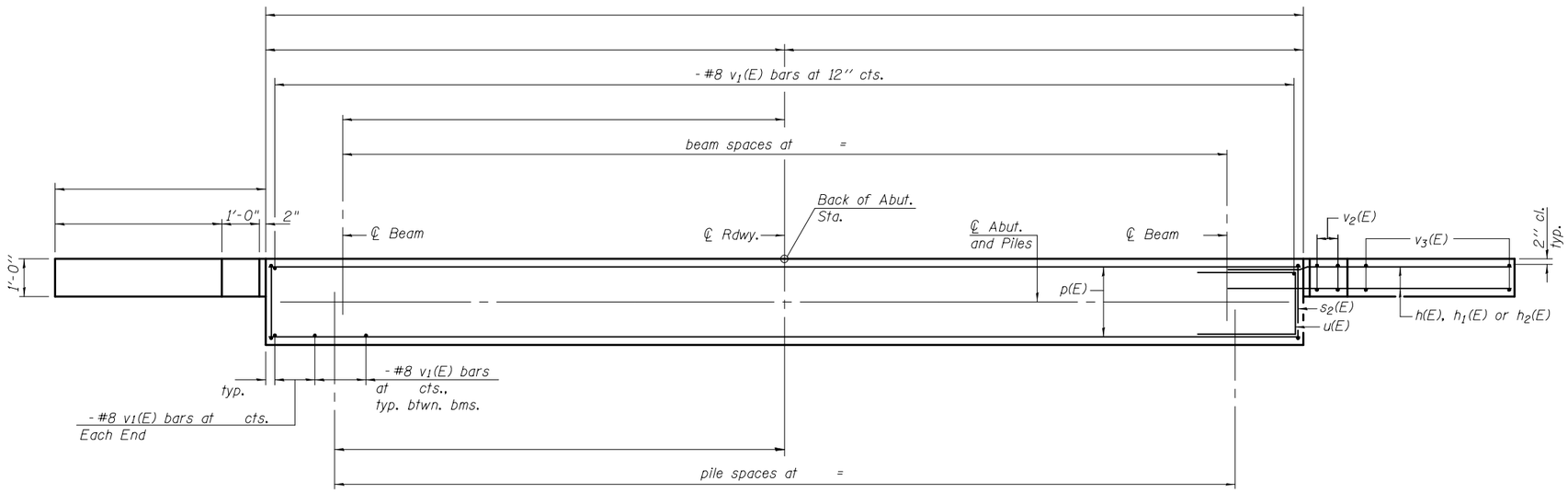
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

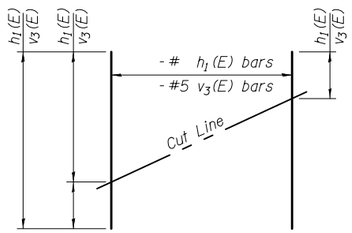
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
$p(E)$		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$u(E)$	8	#6		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

For details of piles see sheet of .

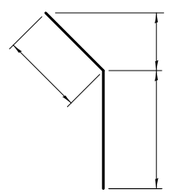
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

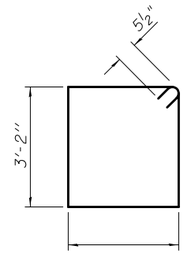


FIELD CUTTING DIAGRAM

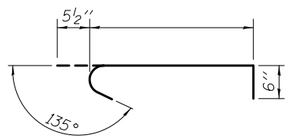
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



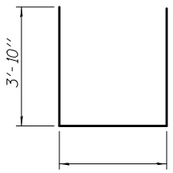
BAR $h_2(E)$



BAR $s_2(E)$



BAR $s_3(E)$



BAR $u(E)$

AI-≫40-0 8-31-12

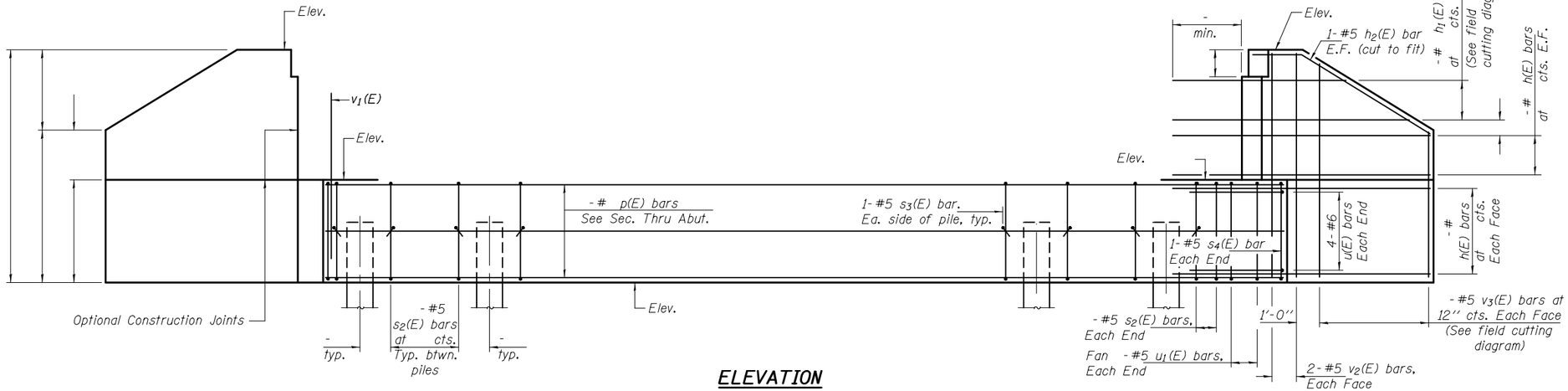
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

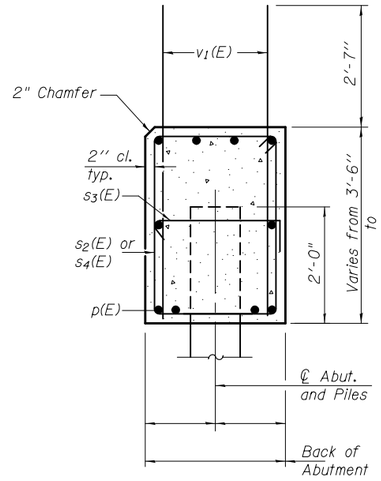
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

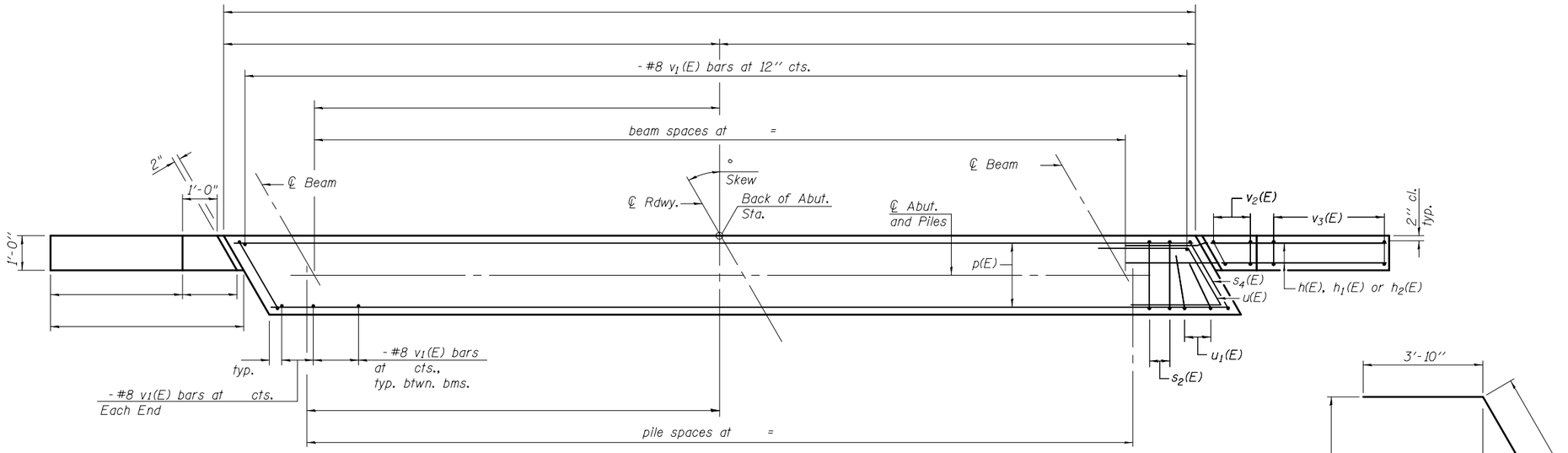


ELEVATION



SEC. THRU ABUT.

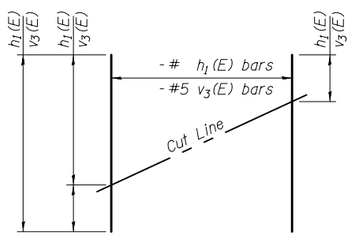
Dimensions at right angles to abutment.



PLAN

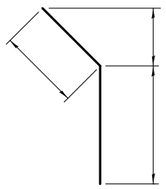
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

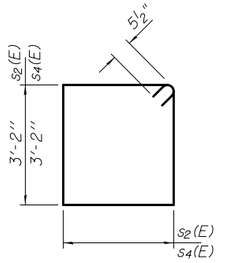


FIELD CUTTING DIAGRAM

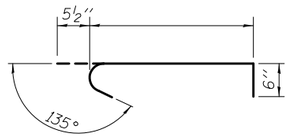
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



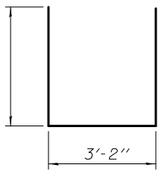
BAR $h_2(E)$



BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR $u_1(E)$

BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

For details of piles see sheet of .

AI->40-L 8-31-12

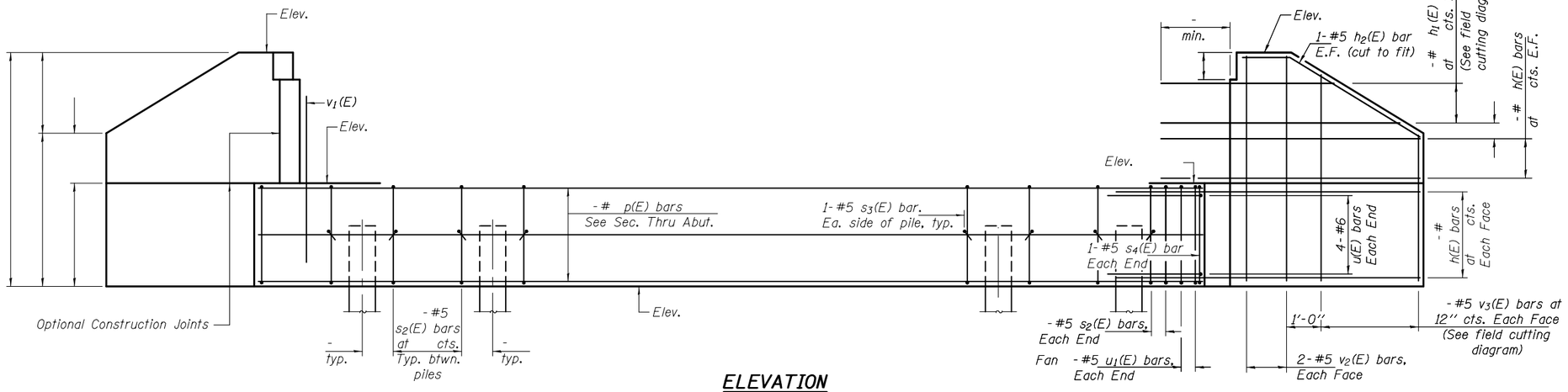
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

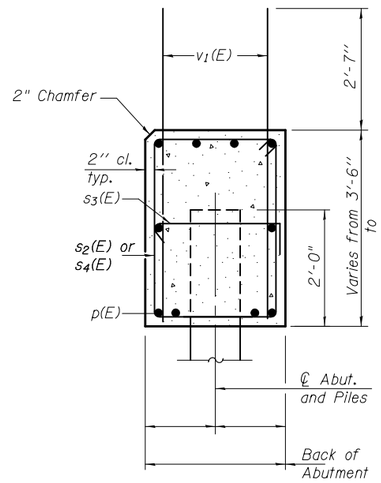
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

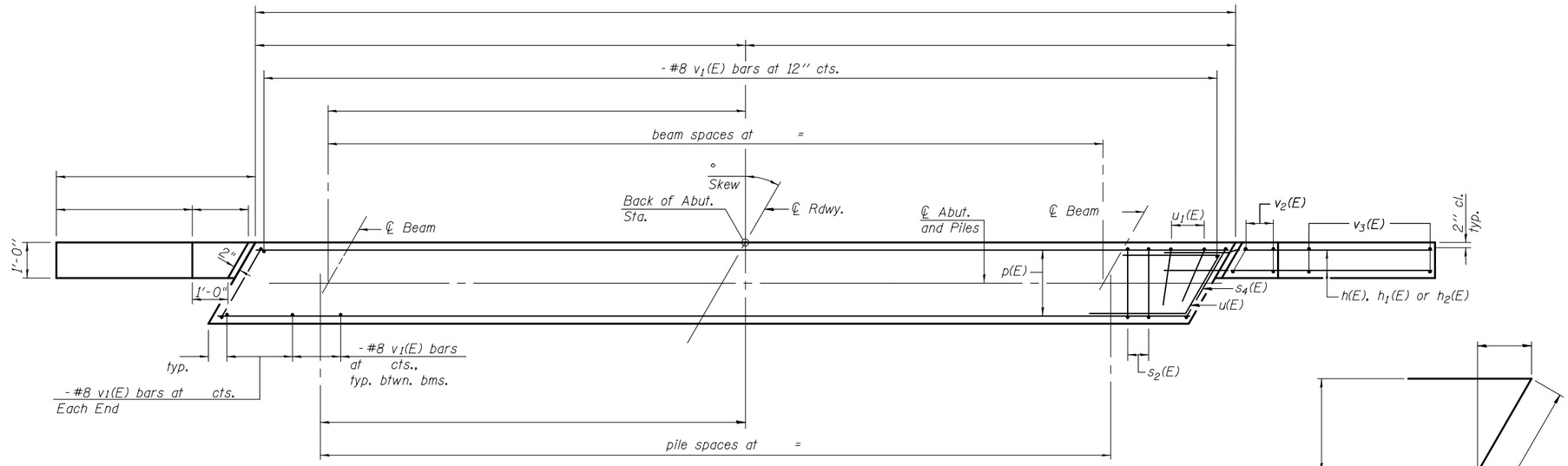


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

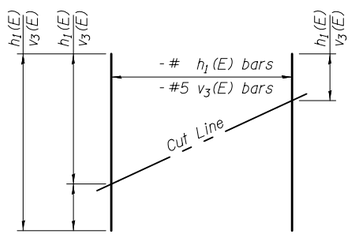
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

For details of piles see sheet of .

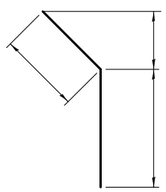
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

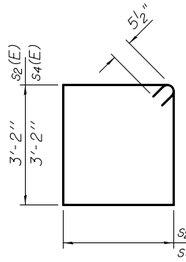


FIELD CUTTING DIAGRAM

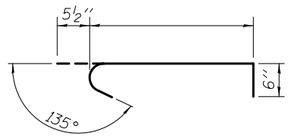
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BAR $h_2(E)$

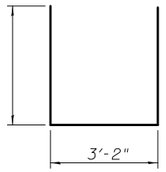


BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$

BAR u(E)



BAR $u_1(E)$

AI->40-R 8-31-12

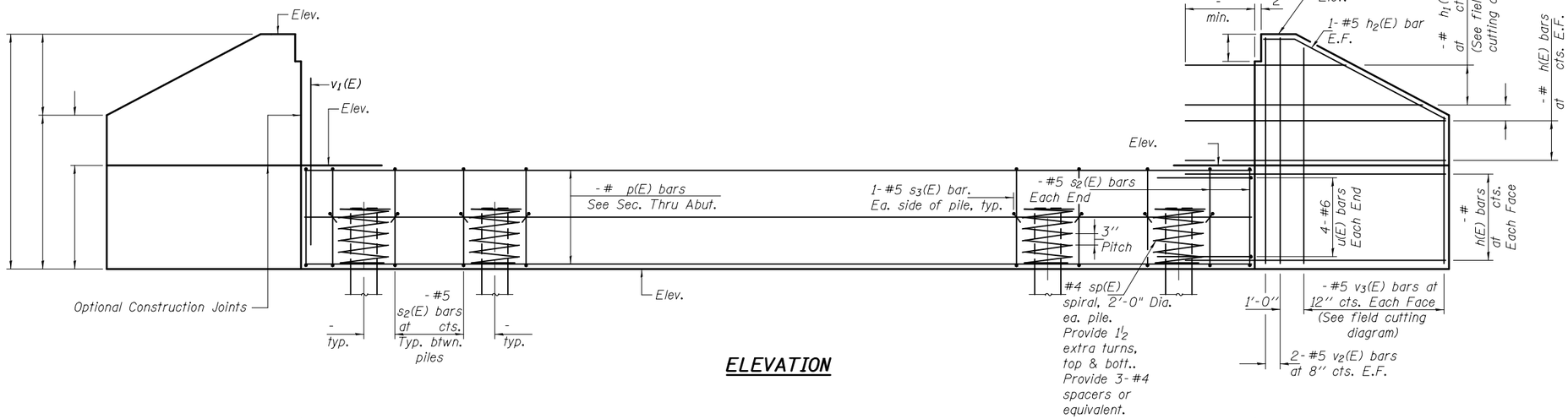
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

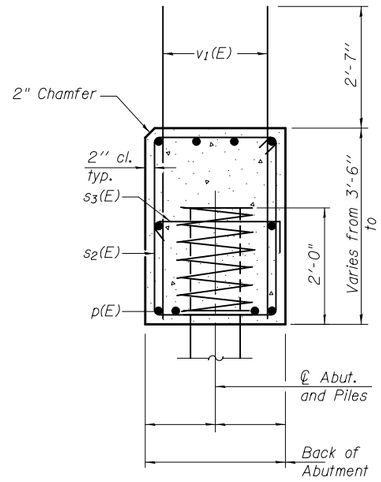
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

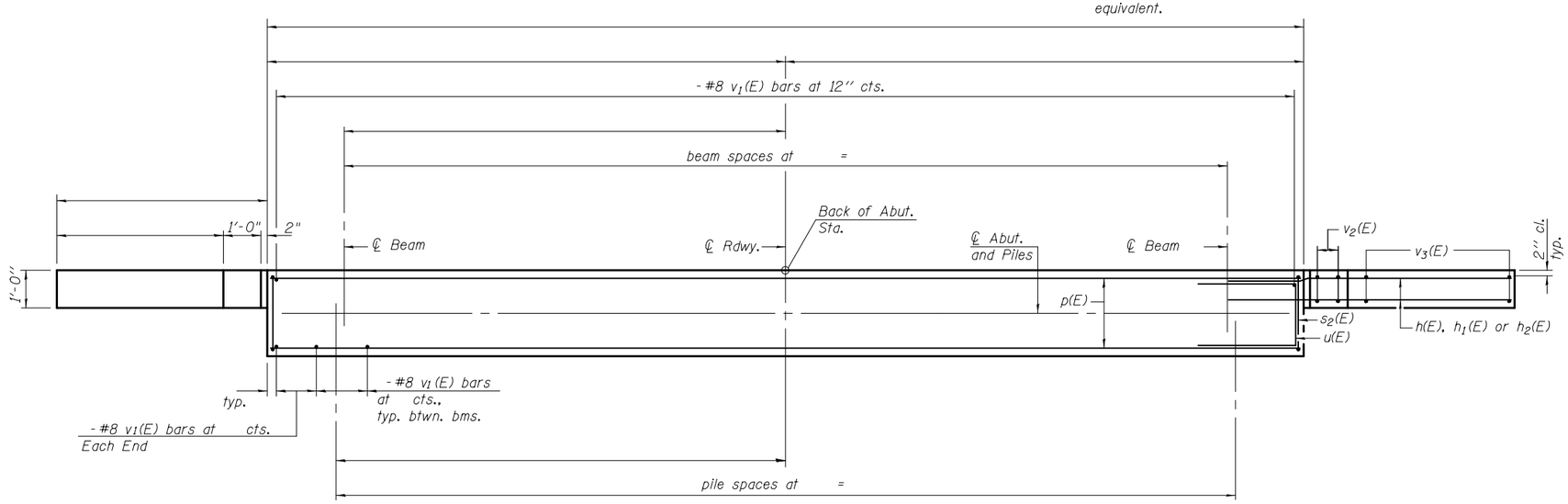
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

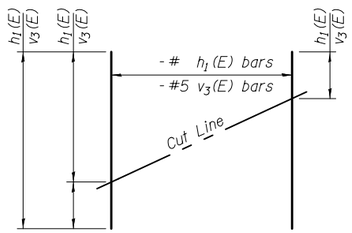
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

*Length is height of spiral.
For details of piles see sheet of .

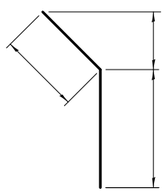
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

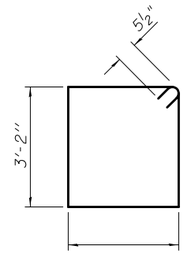


FIELD CUTTING DIAGRAM

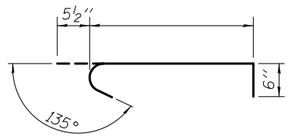
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



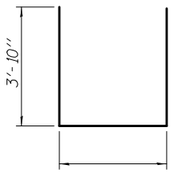
BAR $h_2(E)$



BAR $s_2(E)$



BAR $s_3(E)$



BAR u(E)

AI-7405-0 8-31-12

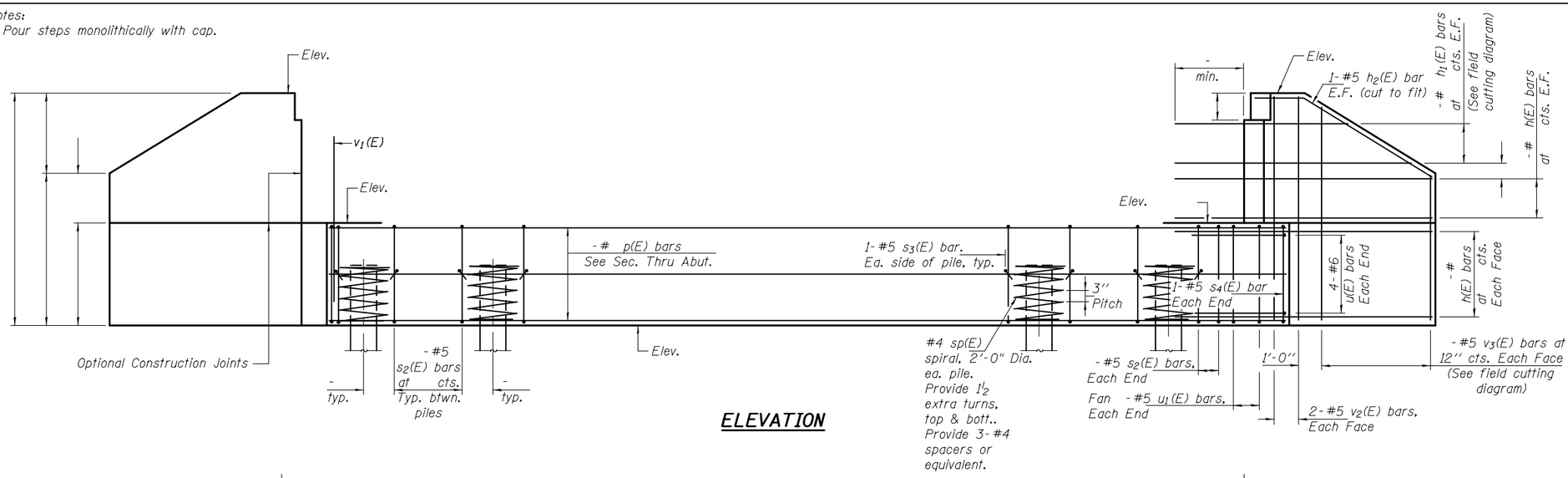
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

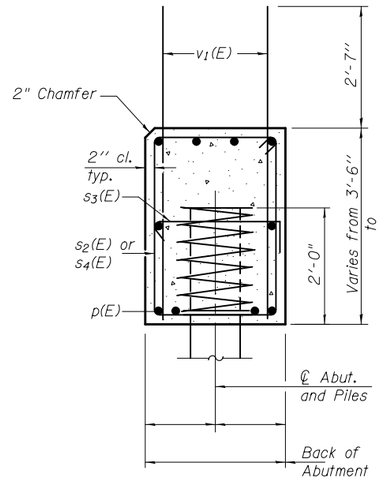
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

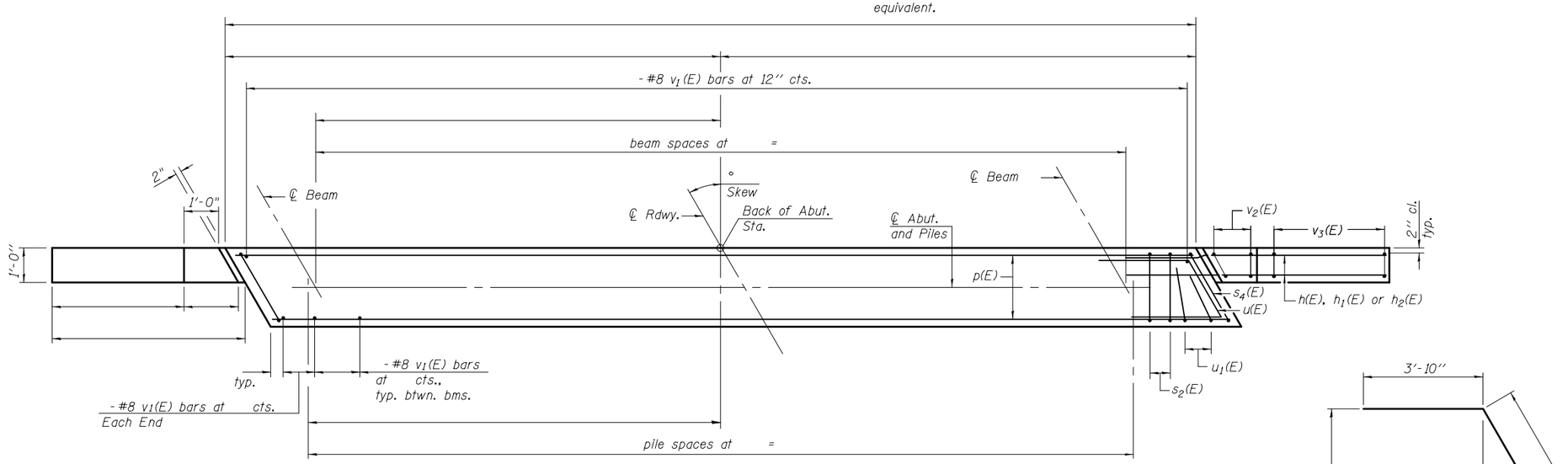


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

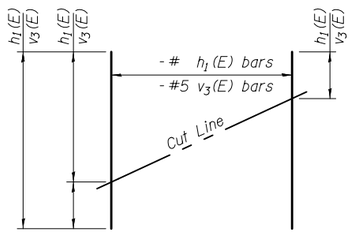
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
$u_1(E)$		#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

*Length is height of spiral.
For details of piles see sheet of .

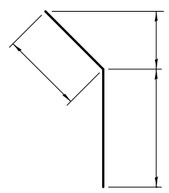
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

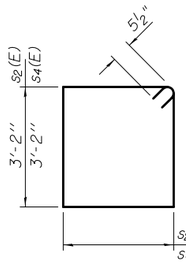


FIELD CUTTING DIAGRAM

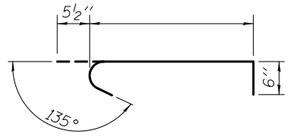
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



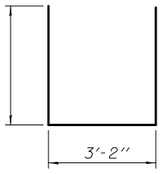
BAR $h_2(E)$



BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR $u_1(E)$

BAR u(E)

AI->40S-L 8-31-12

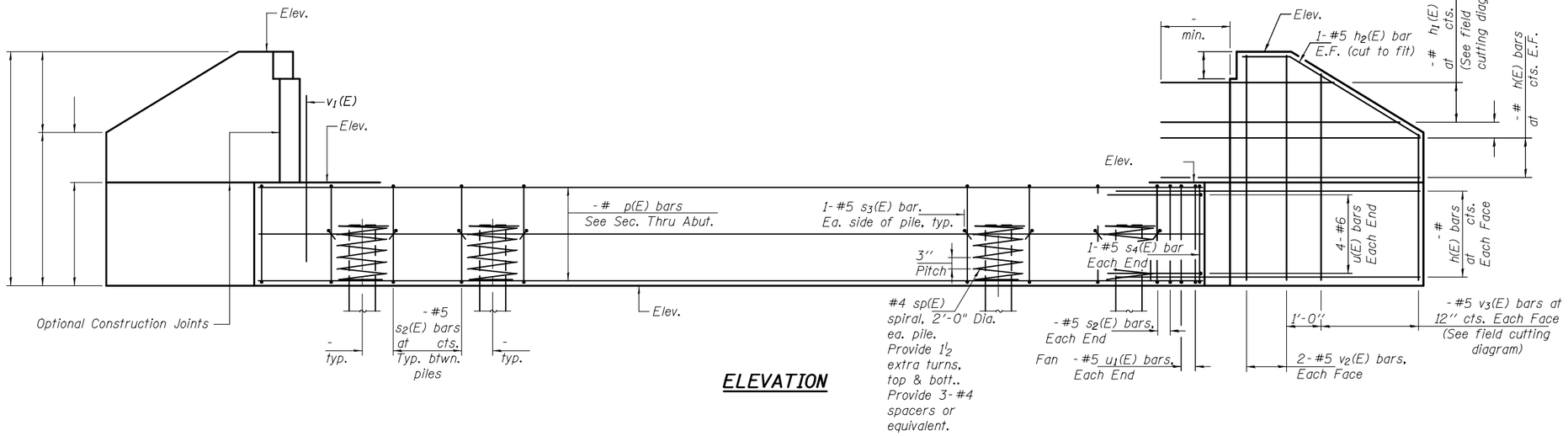
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

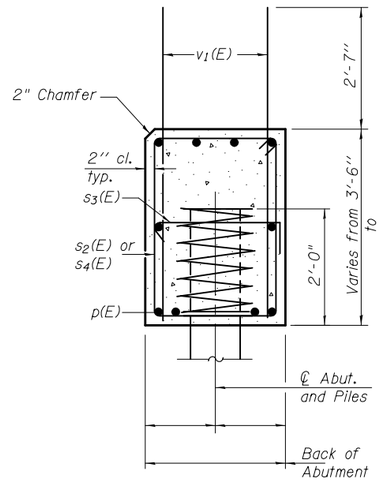
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

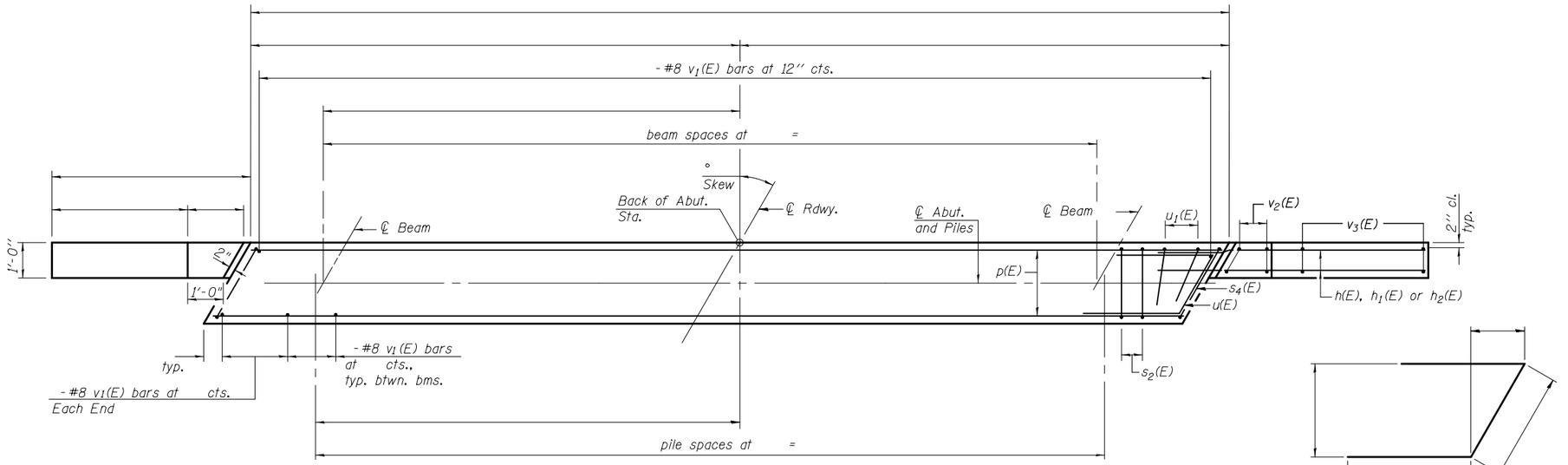


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

BAR u(E)

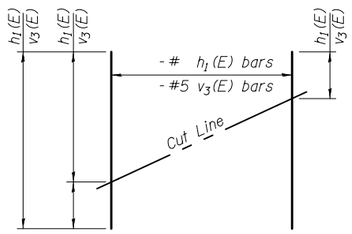
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
$h_2(E)$	4	#5		
p(E)		#		
$s_2(E)$		#5		
$s_3(E)$		#5		
$s_4(E)$		#5		
* sp(E)		#4	2'-0"	
u(E)	8	#6		
$u_1(E)$	6	#5		
$v_1(E)$		#8	5'-11"	
$v_2(E)$		#5		
$v_3(E)$		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

* Length is height of spiral.
For details of piles see sheet of .

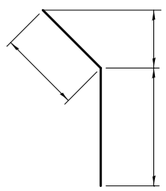
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

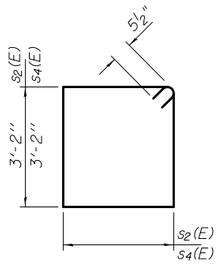


FIELD CUTTING DIAGRAM

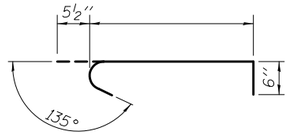
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



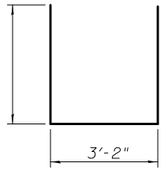
BAR $h_2(E)$



BAR $s_2(E)$ & $s_4(E)$



BAR $s_3(E)$



BAR $u_1(E)$

AI->40S-R 8-31-12

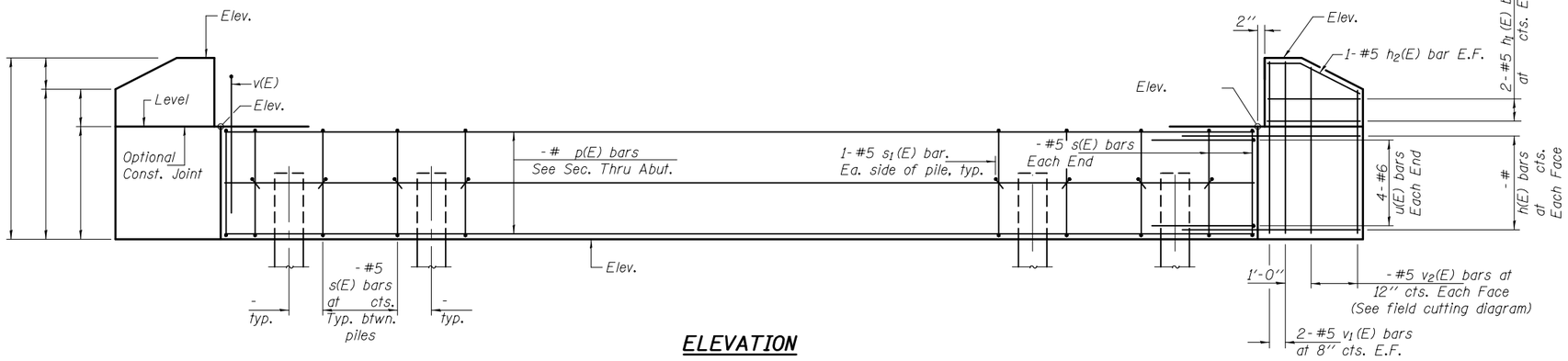
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

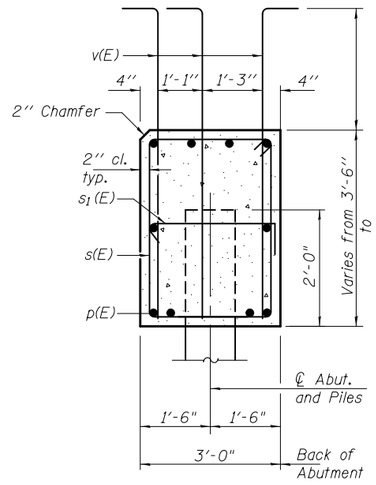
ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

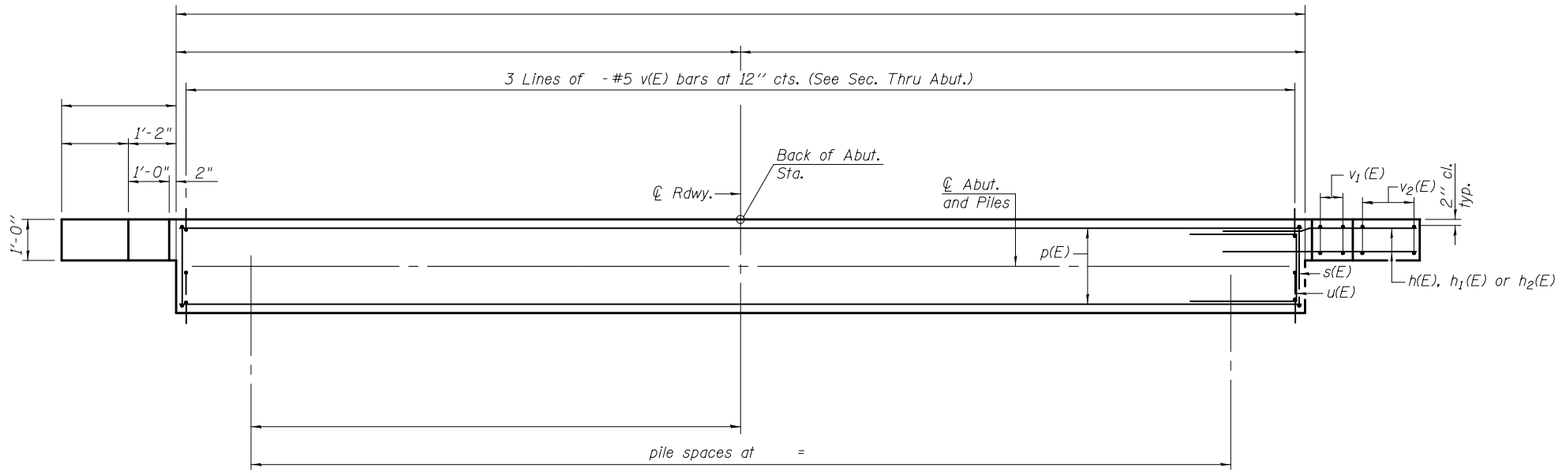
CONTRACT NO.
ILLINOIS FED. AID PROJECT



ELEVATION



SEC. THRU ABUT.



PLAN

BILL OF MATERIAL

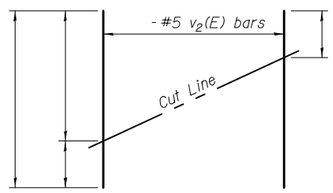
Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)	8	#5		
h_2(E)	4	#5		
p(E)		#		
s(E)		#5	12'-7"	
s_1(E)		#5		
u(E)	8	#6	10'-3"	
v(E)		#5		
v_1(E)	8	#5		
v_2(E)		#5		

Structure Excavation	Cu. Yd.	
Concrete Structures	Cu. Yd.	
Reinforcement Bars, Epoxy Coated	Pound	
Furnishing - Piles,	Foot	
Driving Piles	Foot	
Test Pile,	Each	

For details of piles see sheet of .

PILE DATA

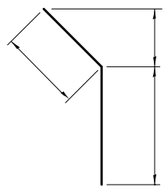
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



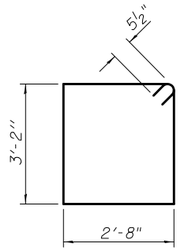
FIELD CUTTING DIAGRAM

Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.

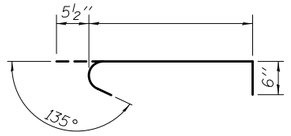
BAR v(E)



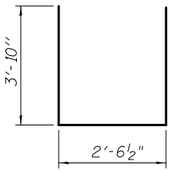
BAR h_2(E)



BAR s(E)



BAR s_1(E)



BAR u(E)

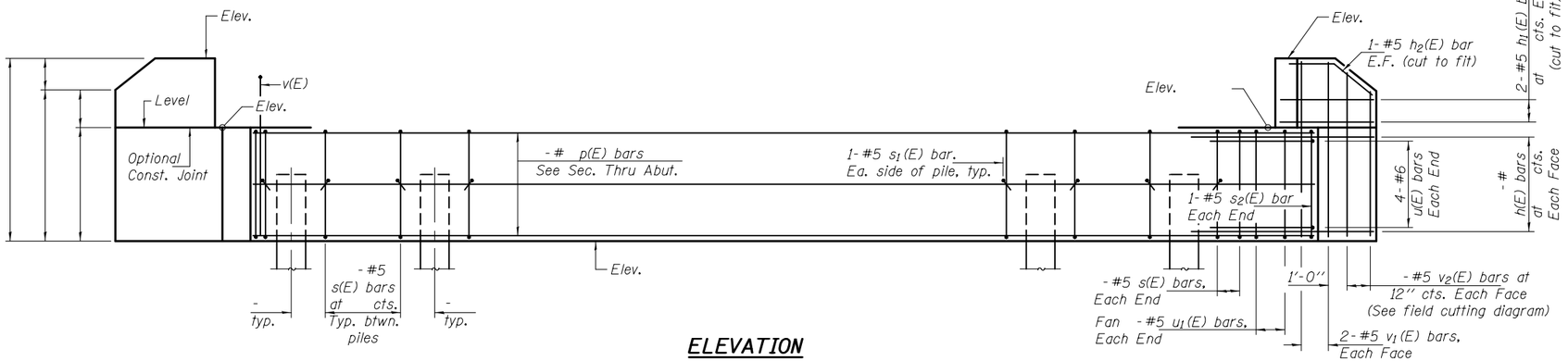
AIS-0 8-31-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

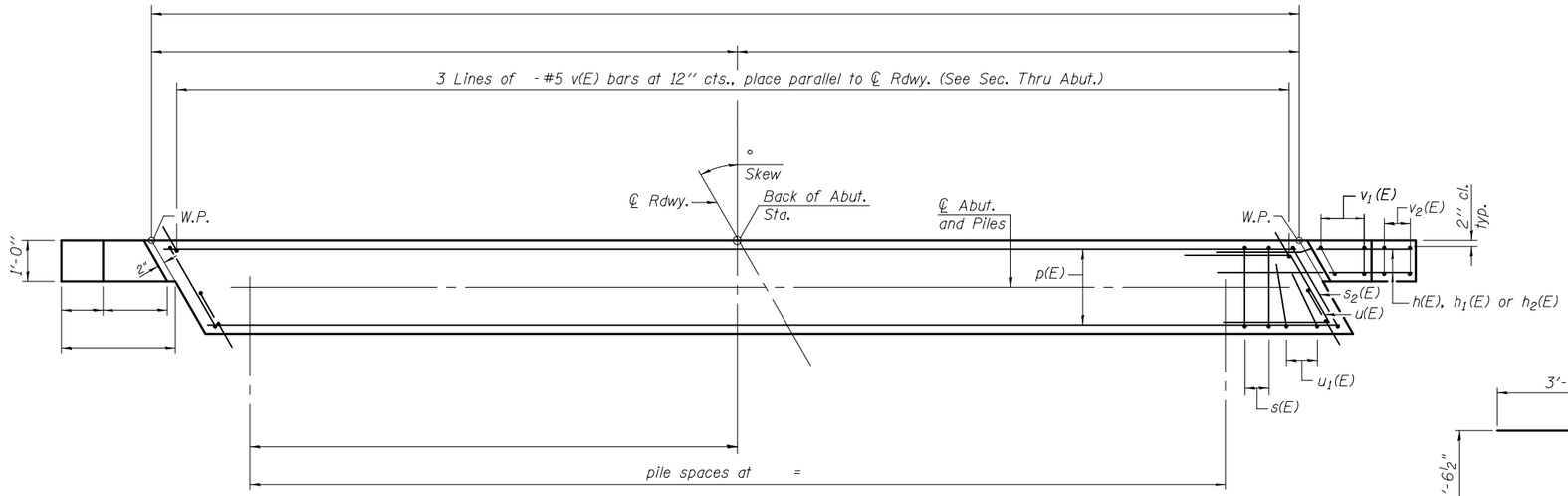
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

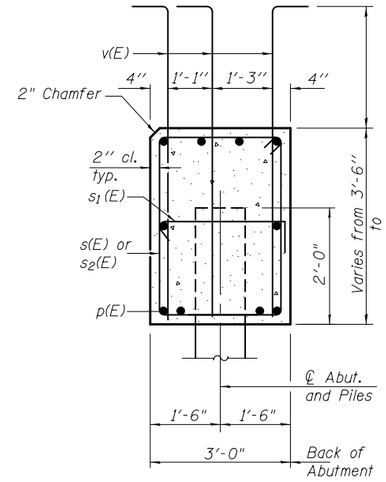
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN



SEC. THRU ABUT.

Dimensions at right angles to abutment.

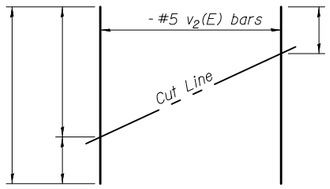
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$	8	#5		
$h_2(E)$	4	#5		
p(E)		#		
s(E)		#5		
$s_1(E)$		#5		
$s_2(E)$		#5		
u(E)	8	#6		
$u_1(E)$		#5		
v(E)		#5		
$v_1(E)$	8	#5		
$v_2(E)$		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

For details of piles see sheet of .

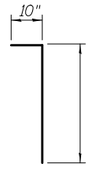
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

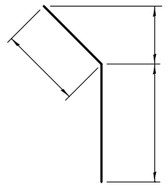


FIELD CUTTING DIAGRAM

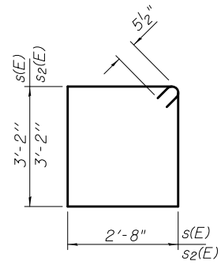
Order $v_2(E)$ full length. Cut as shown and use remainder of bars in opposite face.



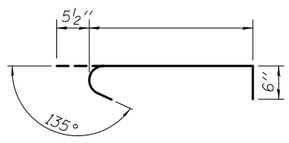
BAR v(E)



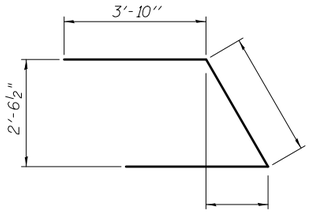
BAR $h_2(E)$



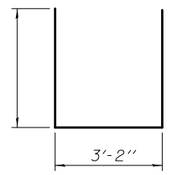
BAR s(E) & $s_2(E)$



BAR $s_1(E)$



BAR u(E)



BAR $u_1(E)$

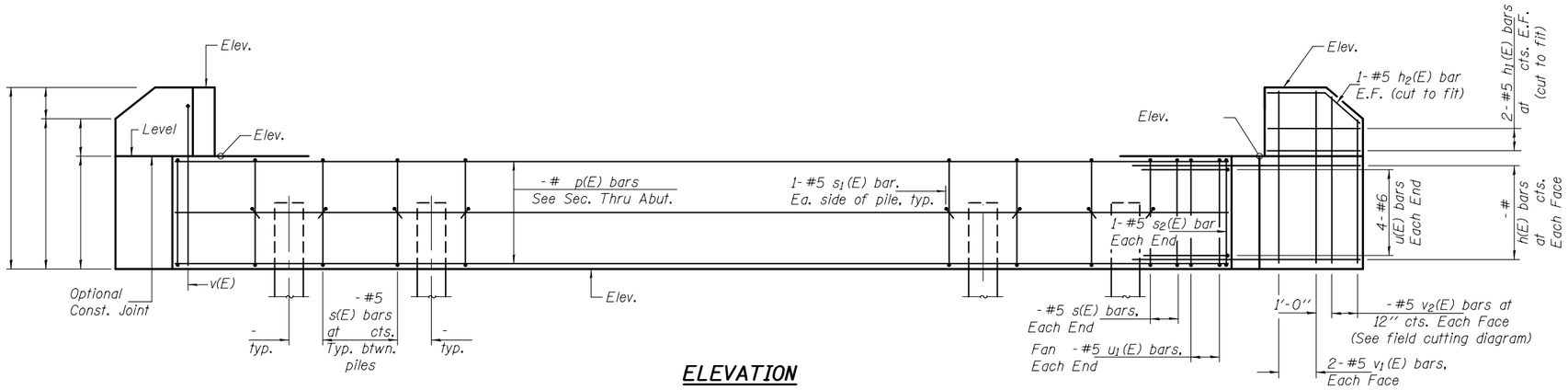
AIS-L 8-31-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

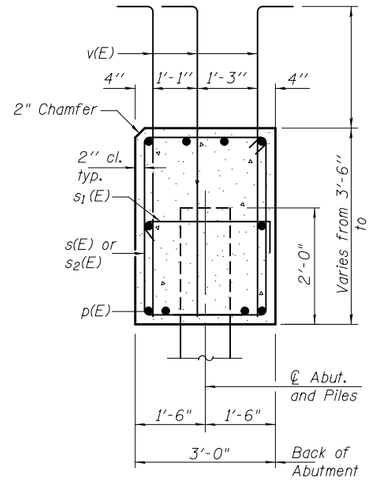
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

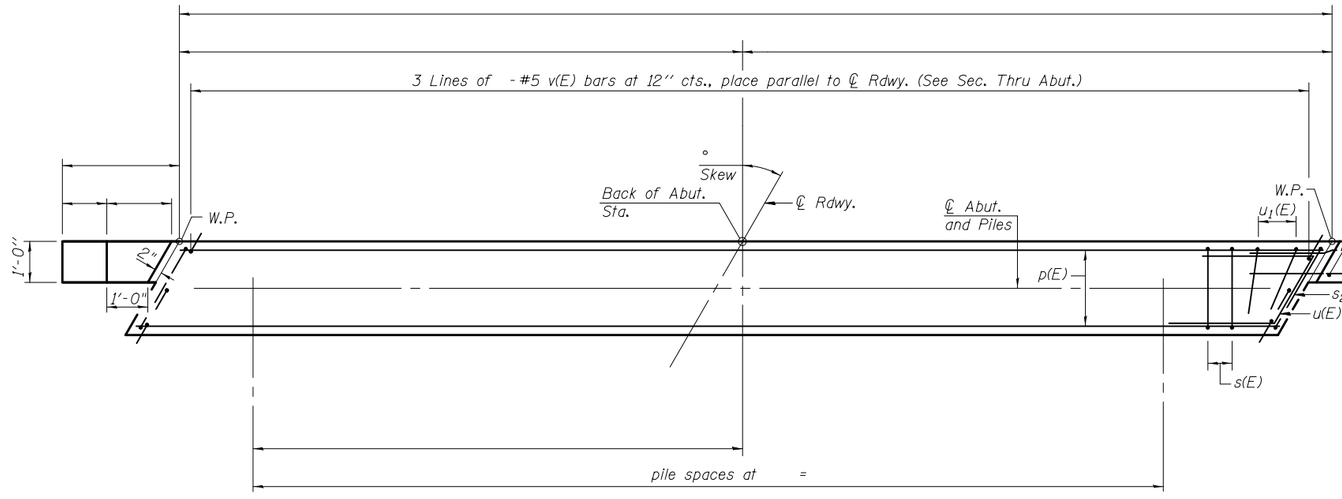


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.

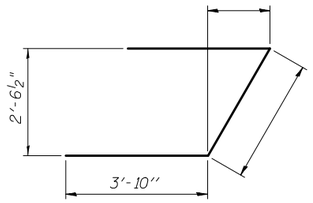


PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
h_1(E)	8	#5		
h_2(E)	4	#5		
p(E)		#		
s(E)		#5	12'-7"	
s_1(E)		#5		
s_2(E)		#5		
u(E)	8	#6	10'-3"	
u_1(E)		#5		
v(E)		#5		
v_1(E)	8	#5		
v_2(E)		#5		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

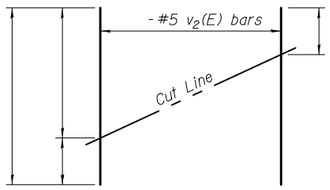
For details of piles see sheet of .



BAR u(E)

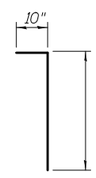
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

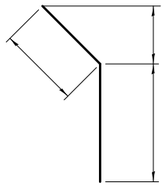


FIELD CUTTING DIAGRAM

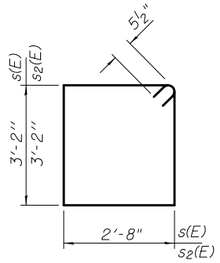
Order v_2(E) full length. Cut as shown and use remainder of bars in opposite face.



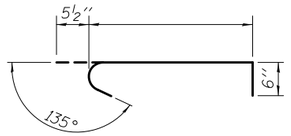
BAR v(E)



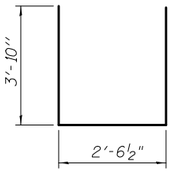
BAR h_2(E)



BAR s(E) & s_2(E)



BAR s_1(E)



BAR u(E)

AIS-R 8-31-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENTS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT

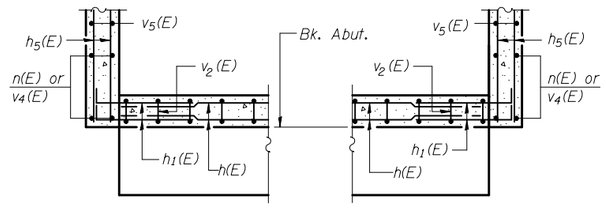
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.
For details of reinforcement and Bill of Material, see sheet - of -.

APPROACH BENT-PILE DATA

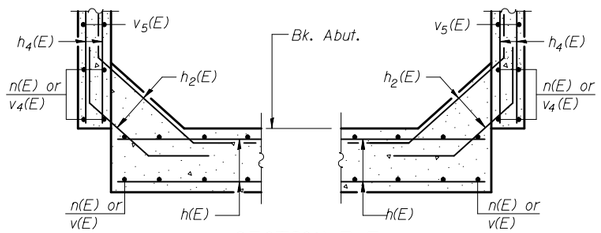
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUTMENT- PILE DATA

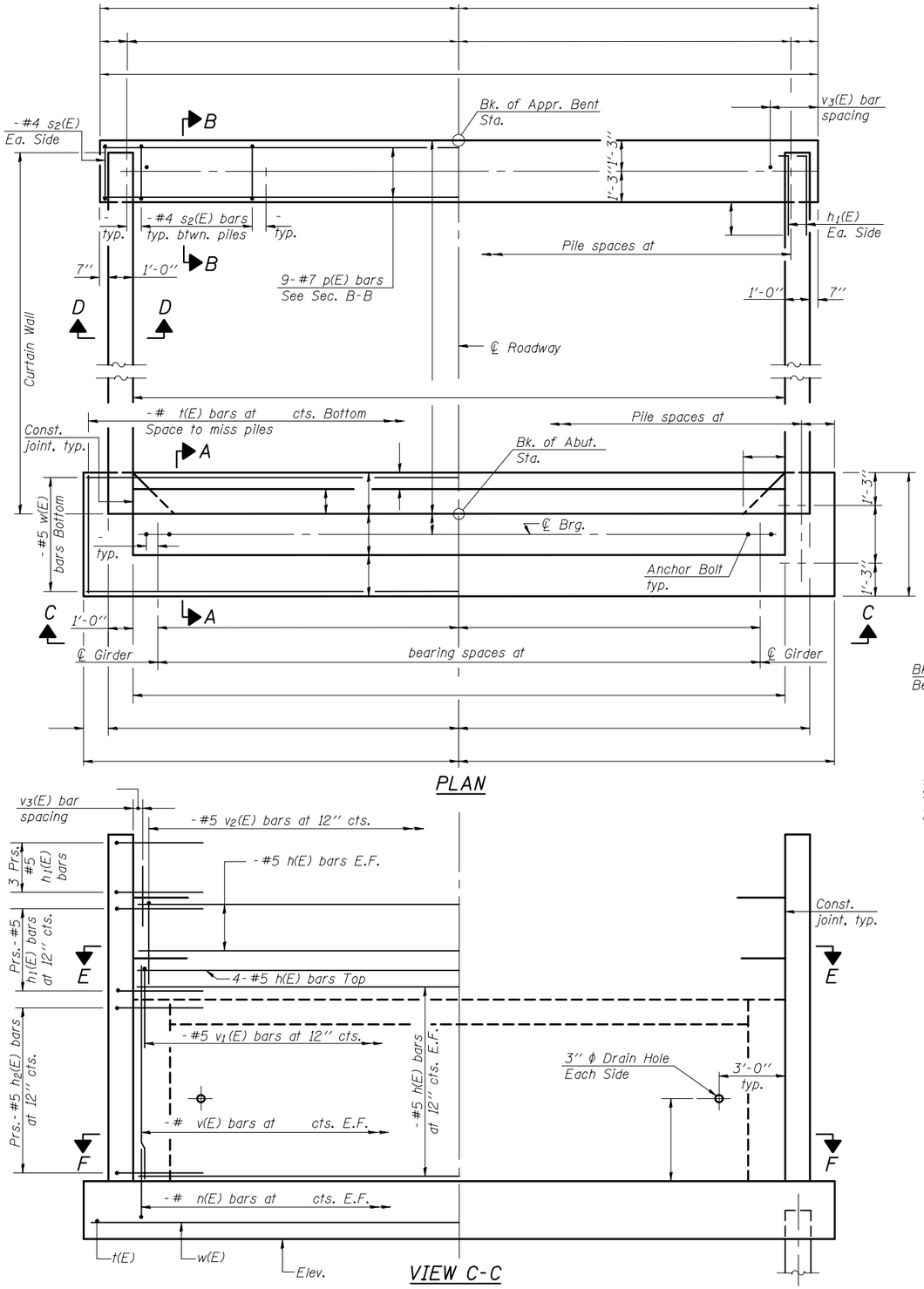
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



SECTION E-E

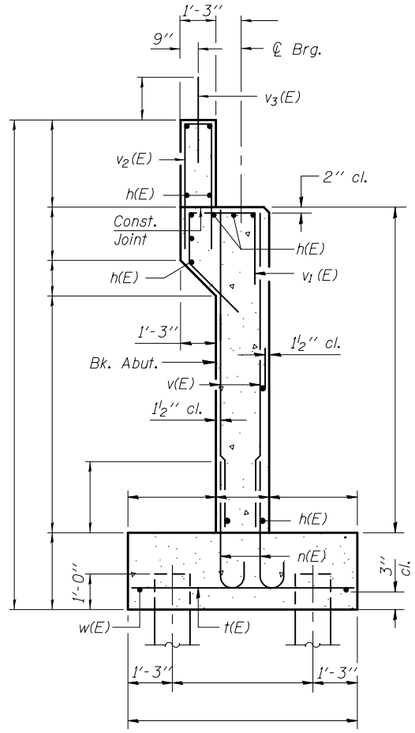


SECTION F-F

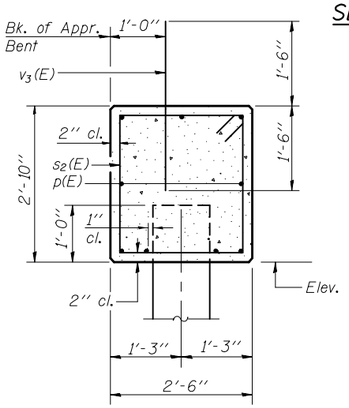


PLAN

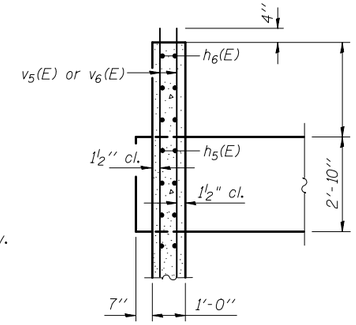
VIEW C-C



SECTION A-A



SECTION B-B



SECTION D-D

AV-I-0 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT

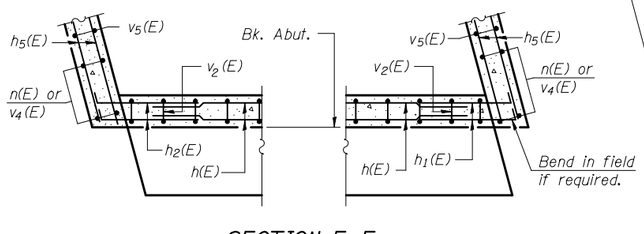
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.
For details of reinforcement and Bill of Material, see sheet - of -.

APPROACH BENT-PILE DATA

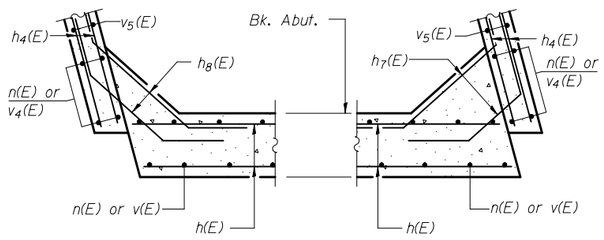
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUTMENT- PILE DATA

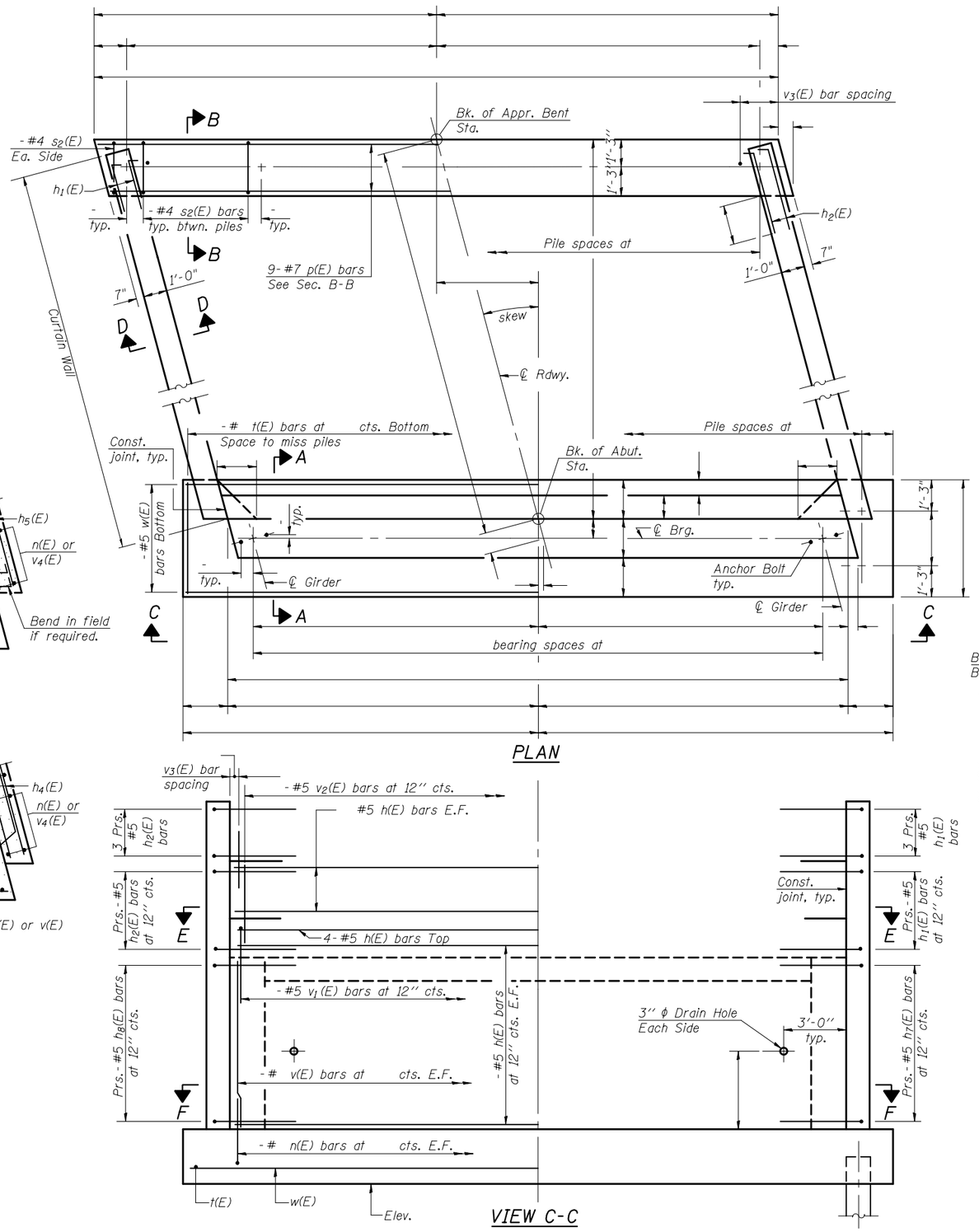
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



SECTION E-E

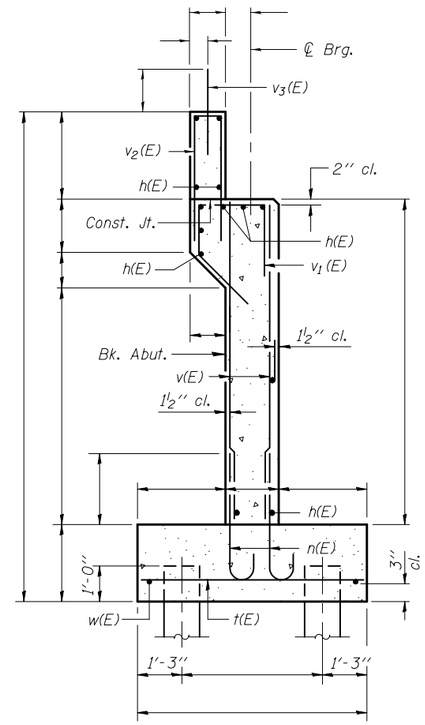


SECTION F-F

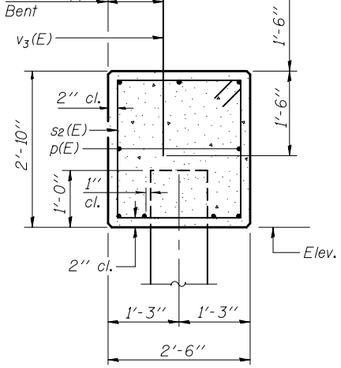


PLAN

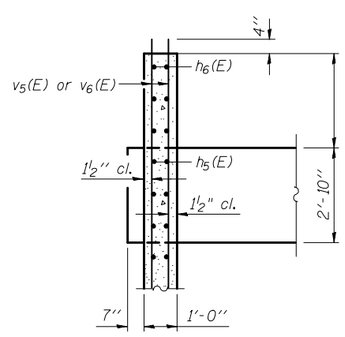
VIEW C-C



SECTION A-A



SECTION B-B



SECTION D-D

AV-I-L 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENTS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

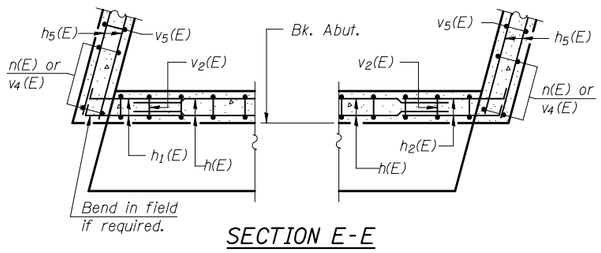
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.
For details of reinforcement and Bill of Material, see sheet - of -.

APPROACH BENT-PILE DATA

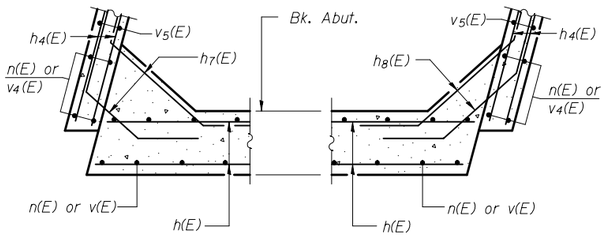
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUTMENT- PILE DATA

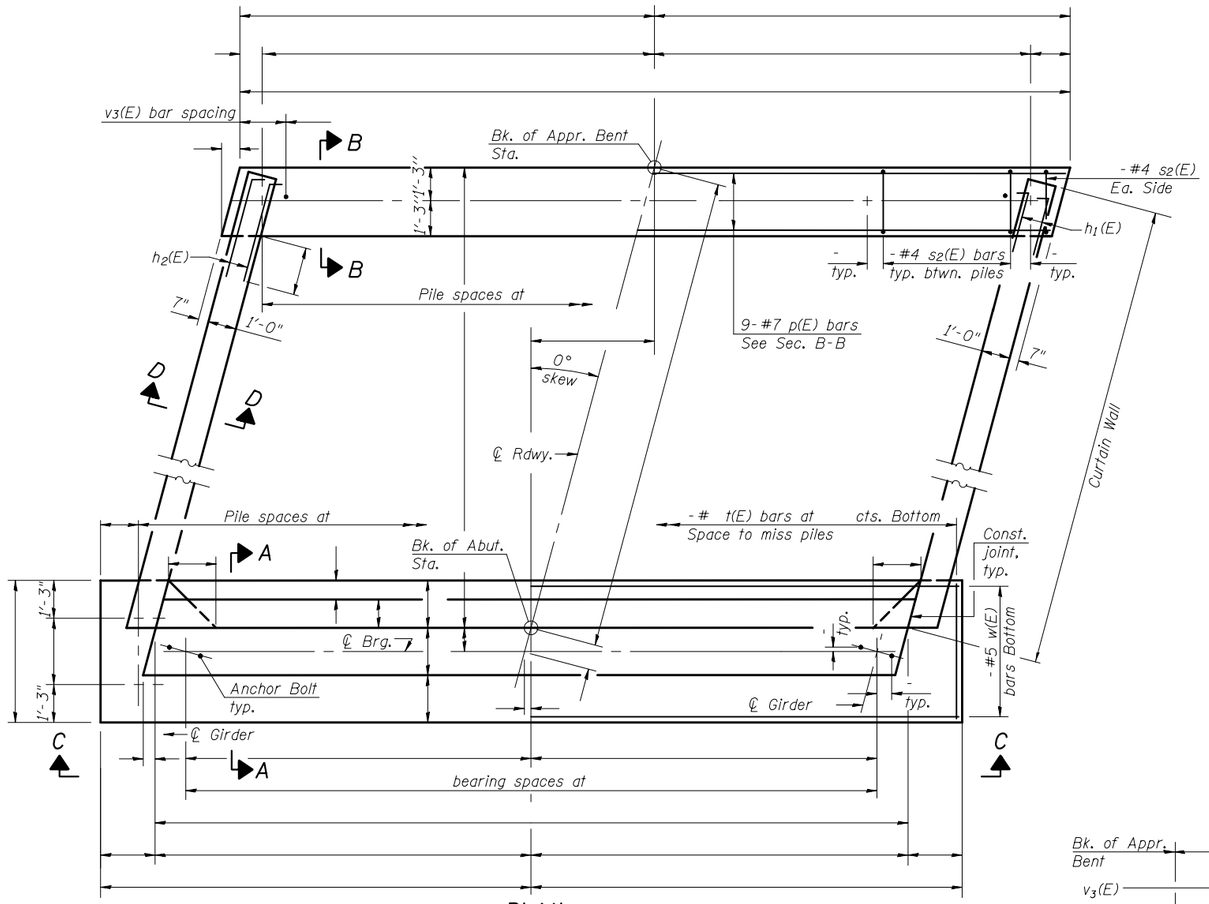
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



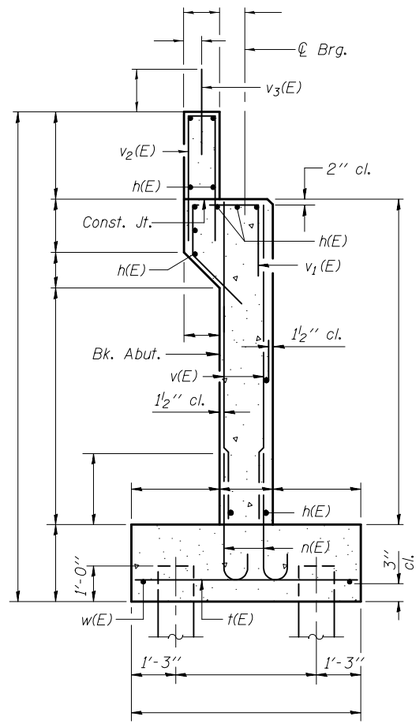
SECTION E-E



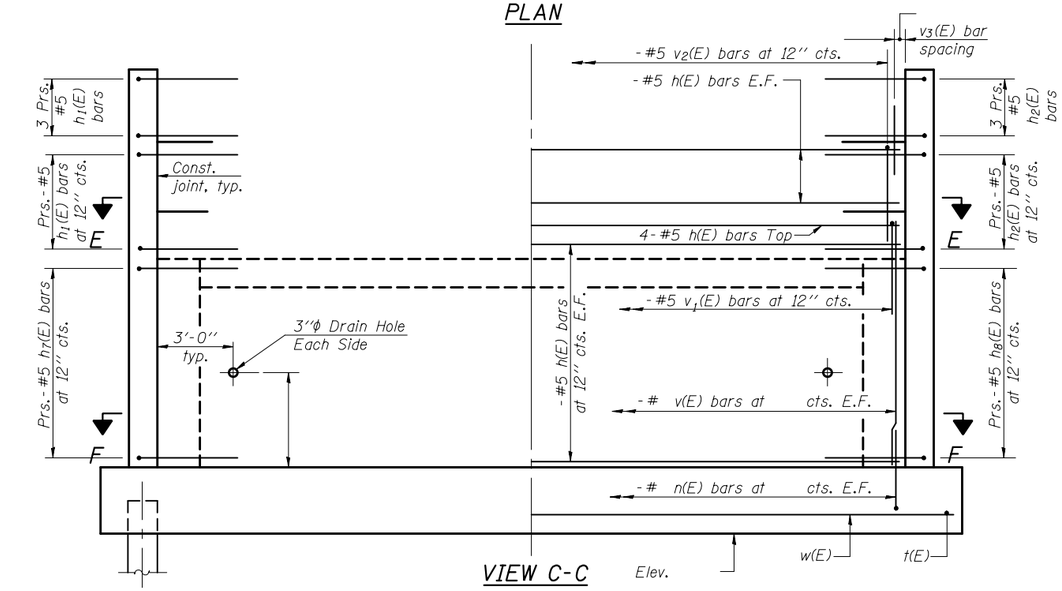
SECTION F-F



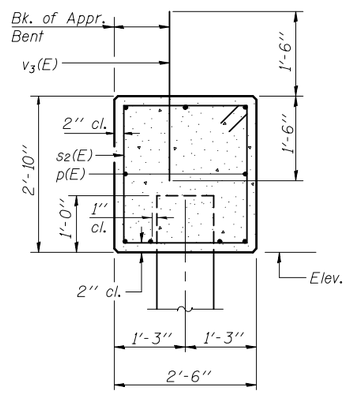
PLAN



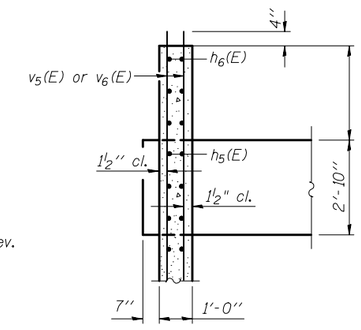
SECTION A-A



VIEW C-C



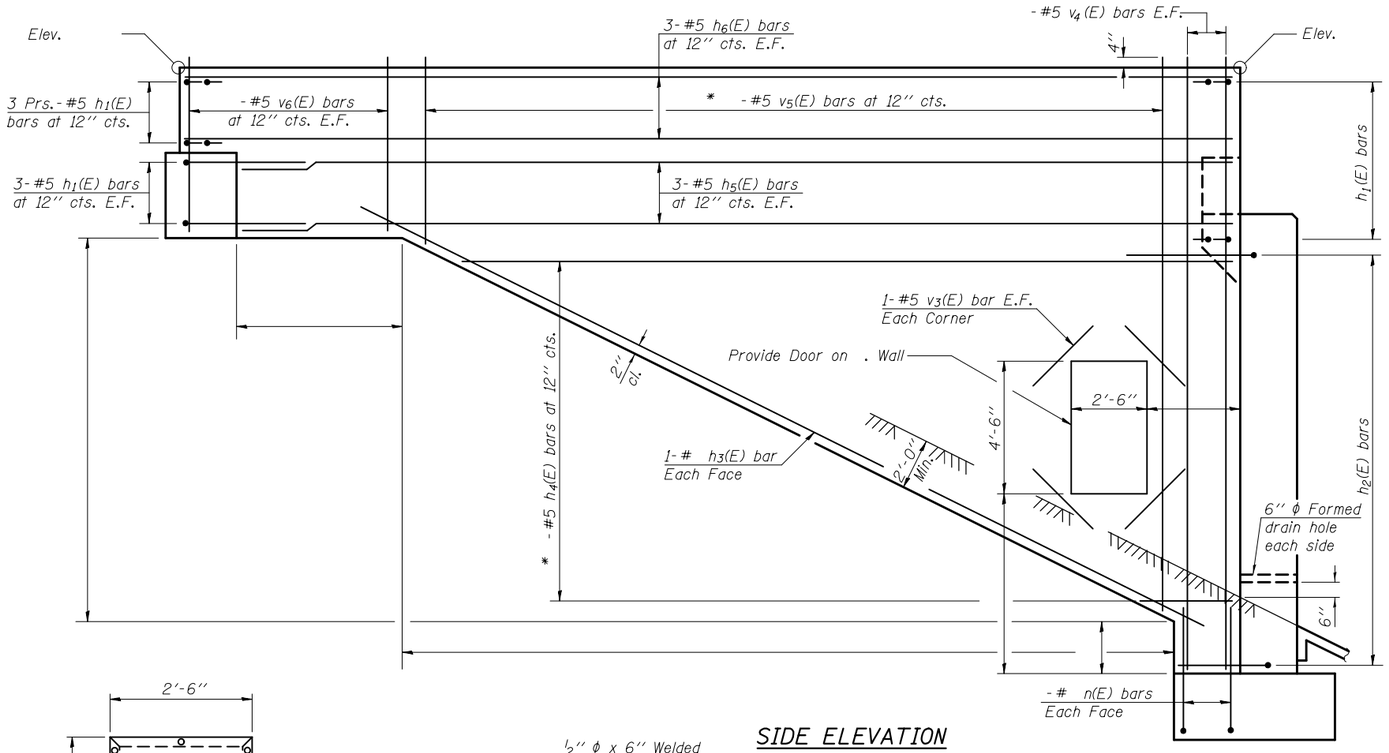
SECTION B-B



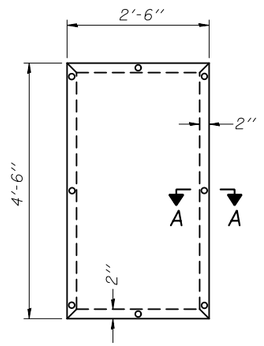
SECTION D-D

AV-I-R 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENTS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT

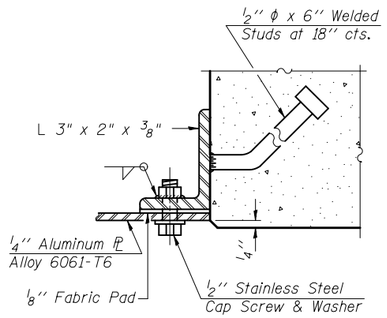


SIDE ELEVATION

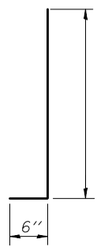


DOOR ELEVATION

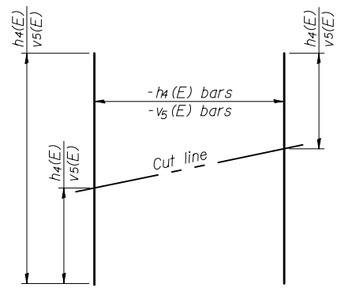
Cost of door and frame are included with Concrete Structures.



SECTION A-A

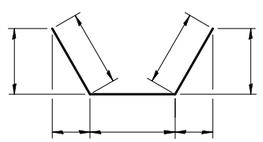


BAR h1(E)

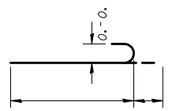


FIELD CUTTING DIAGRAM

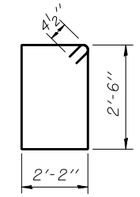
* Order h4(E) and v5(E) bars full length. Cut to fit and use the remainder of bars in opposite face.



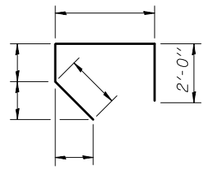
BAR h2(E)



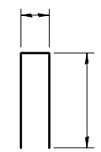
BAR n(E)



BAR s2(E)



BAR v1(E)



BAR v2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
h1(E)		#5		
h2(E)		#5		
h3(E)				
h4(E)		#5		
h5(E)		#5		
h6(E)		#5		
n(E)				
p(E)		#7		
s2(E)		#4	10'-1''	
t(E)				
v(E)				
v1(E)		#5		
v2(E)		#5		
v3(E)		#5	3'-0''	
v4(E)		#5		
v5(E)		#5		
v6(E)		#5		
w(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Concrete Sealer			Sq. Ft.	

Notes:
Pour steps monolithically with cap.

APPROACH BENT STEP DETAIL
(Looking)

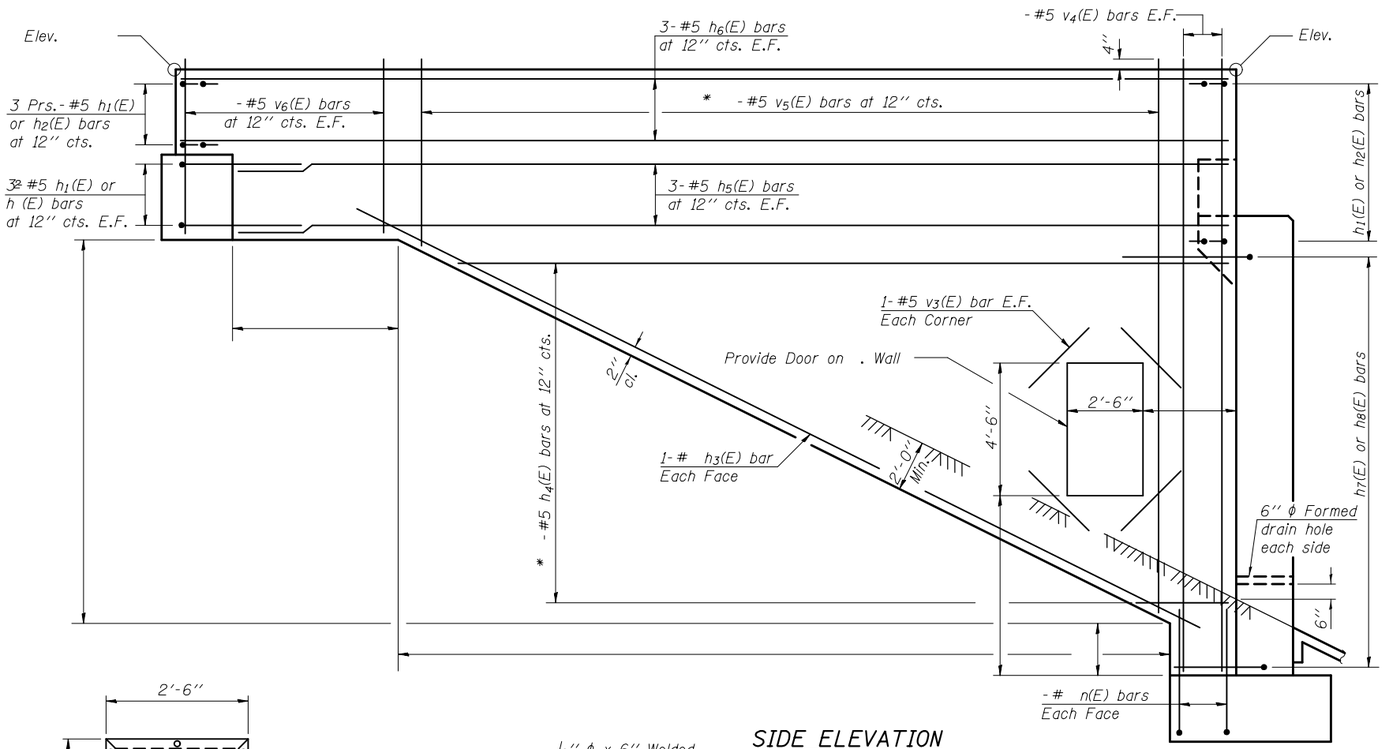
AV-IW-0 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

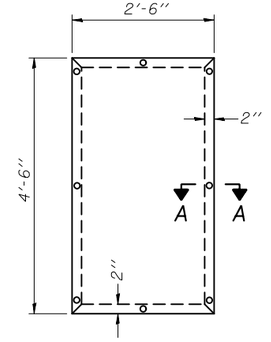
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

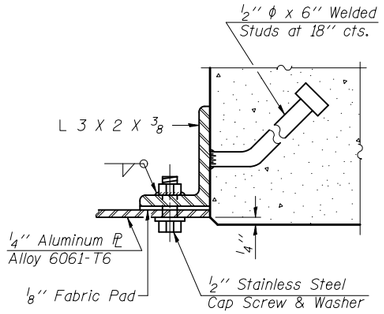


SIDE ELEVATION



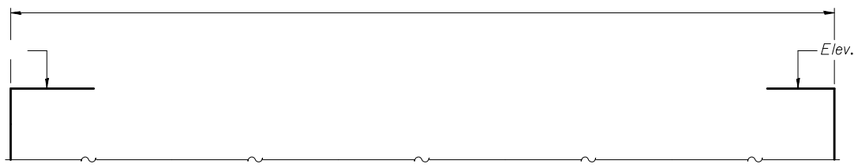
DOOR ELEVATION

Cost of door and frame are included with Concrete Structures.



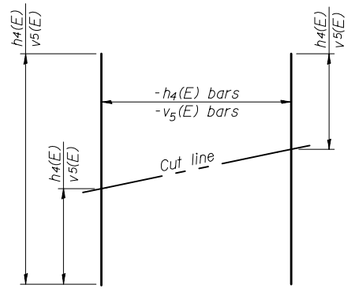
SECTION A-A

Notes:
Pour steps monolithically with cap.



APPROACH BENT STEP DETAIL

(Looking)

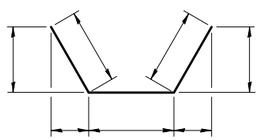


FIELD CUTTING DIAGRAM

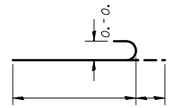
* Order $h_4(E)$ and $v_5(E)$ bars full length. Cut to fit and use the remainder of bars in opposite face.

BAR h1(E)

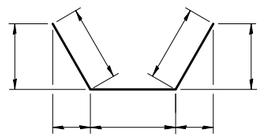
BAR h2(E)



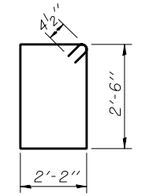
BAR h7(E)



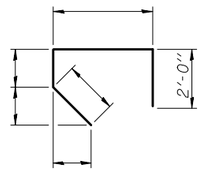
BAR n(E)



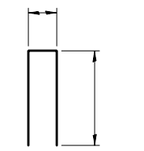
BAR h8(E)



BAR s2(E)



BAR v1(E)



BAR v2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#5		
$h_1(E)$		#5		
$h_2(E)$		#5		
$h_3(E)$				
$h_4(E)$		#5		
$h_5(E)$		#5		
$h_6(E)$		#5		
$h_7(E)$		#5		
$h_8(E)$		#5		
n(E)				
p(E)		#7		
$s_2(E)$		#4	10'-1''	
t(E)				
v(E)				
$v_1(E)$		#5		
$v_2(E)$		#5		
$v_3(E)$		#5	3'-0''	
$v_4(E)$		#5		
$v_5(E)$		#5		
$v_6(E)$		#5		
w(E)		#5		

Structure Excavation	Cu. Yd.	
Concrete Structures	Cu. Yd.	
Reinforcement Bars, Epoxy Coated	Pound	
Furnishing - Piles,	Foot	
Driving Piles	Foot	
Test Pile,	Each	
Concrete Sealer	Sq. Ft.	

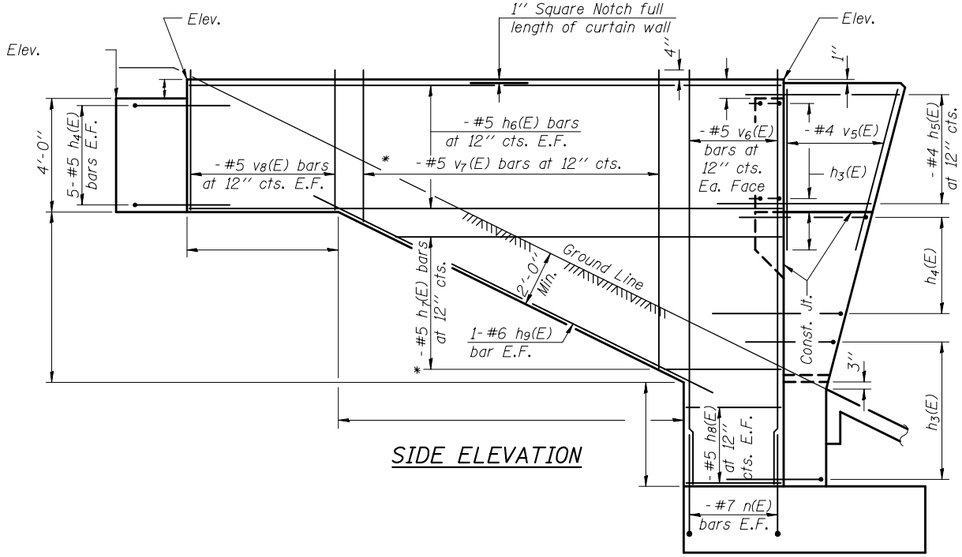
AV-IW-LR 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

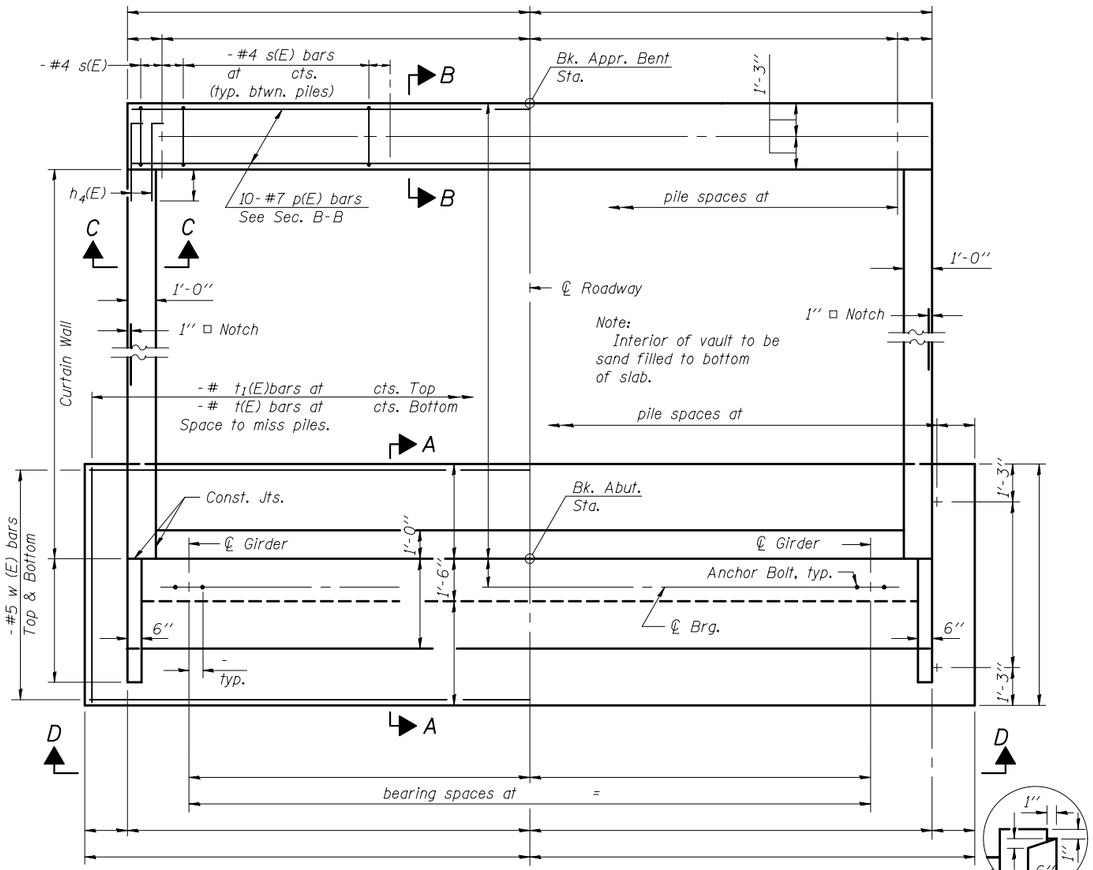
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO.

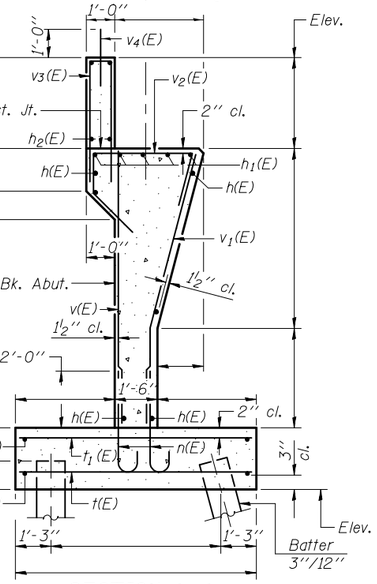
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



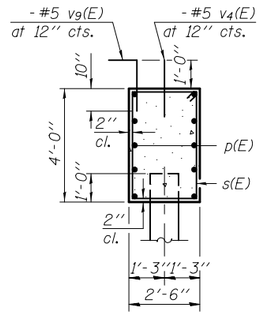
SIDE ELEVATION



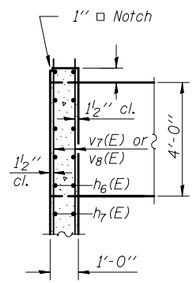
PLAN



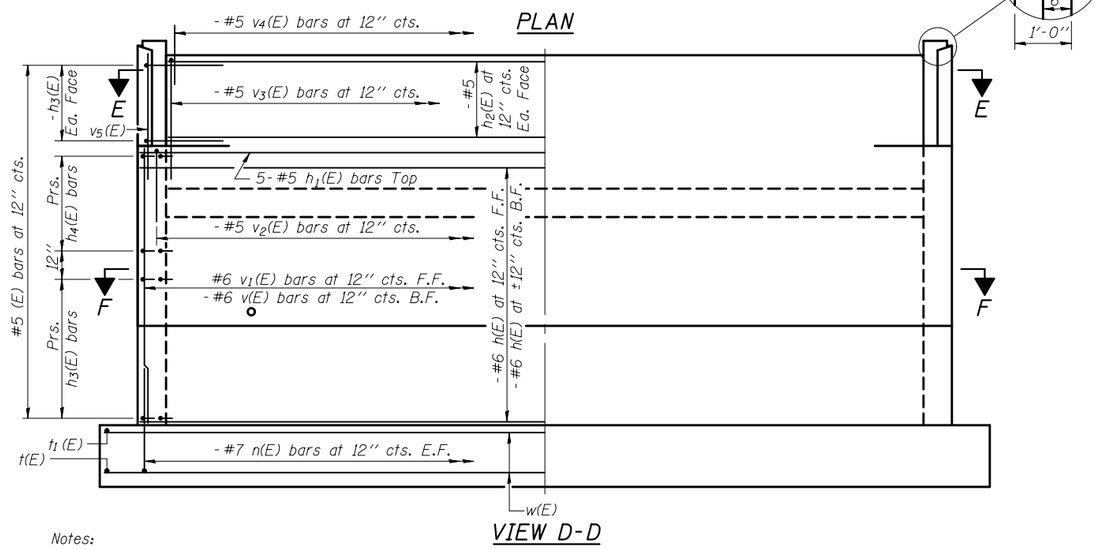
SECTION A-A



SECTION B-B



SECTION C-C



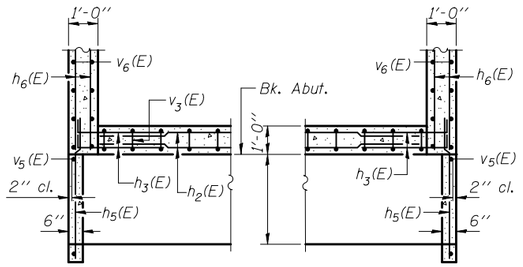
VIEW D-D

Notes:
Space reinforcement in cap to miss anchor bolts.
For details of piles, see sheet - of -.

AV-S-0 7-1-10

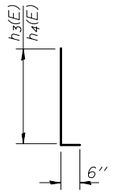
(Sheet 1 of 2)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENT DETAILS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT

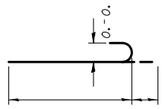


SECTION E-E

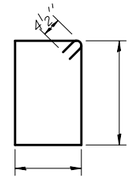
SECTION F-F



BARS h_3(E) and h_4(E)

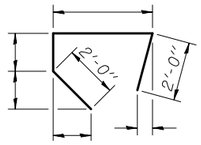


BAR n(E)

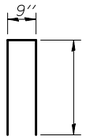


BAR s(E)

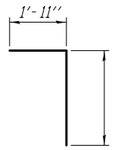
BAR v_1(E)



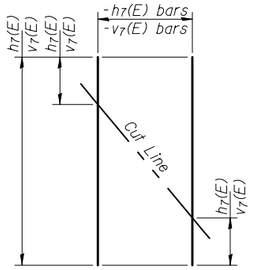
BAR v_2(E)



BAR v_3(E)



BAR v_9(E)



FIELD CUTTING DIAGRAM

* Order h_7(E) & v_7(E) bars full length. Cut to fit as shown and use remainder of bars in other face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#6		
h_1(E)		#5		
h_2(E)		#5		
h_3(E)		#5		L
h_4(E)		#5		L
h_5(E)		#4		
h_6(E)		#5		
h_7(E)		#5		
h_8(E)		#5		
h_9(E)		#6		
n(E)		#7		
p(E)		#7		
s(E)		#4		
t(E)				
t_1(E)				
v(E)		#6		
v_1(E)		#6		
v_2(E)		#5		
v_3(E)		#5		
v_4(E)		#5		
v_5(E)		#4		
v_6(E)		#5		
v_7(E)		#5		
v_8(E)		#5		
v_9(E)		#5		
w(E)		#5		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Sand Backfill			Cu. Yd.	
Concrete Sealer			Sq. Ft.	

APPR. BENT-PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUT.- PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

AV-S-0 7-1-10

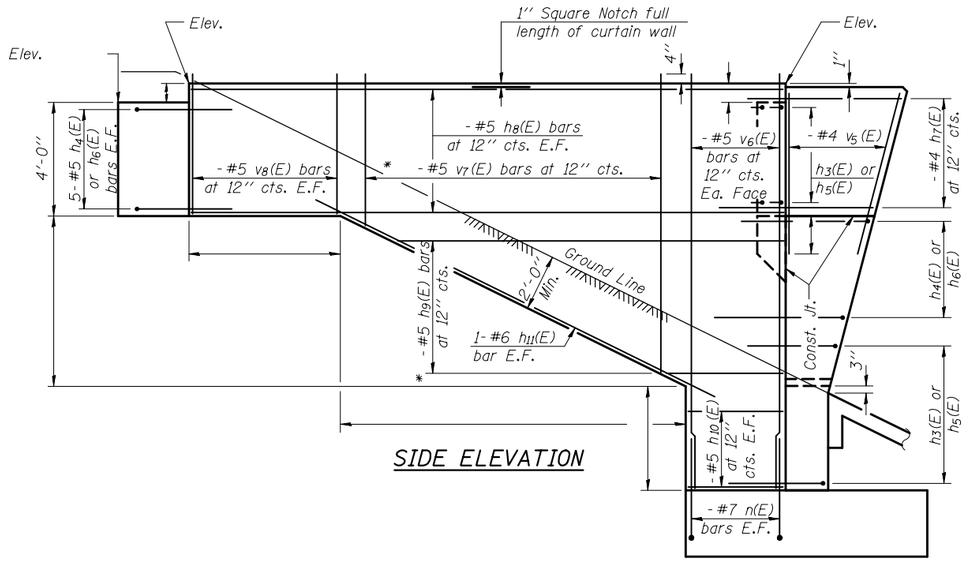
(Sheet 2 of 2)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

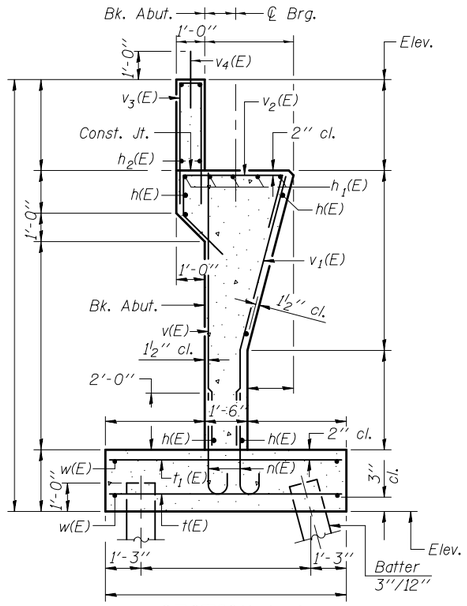
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO.

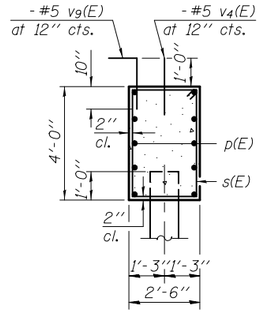
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



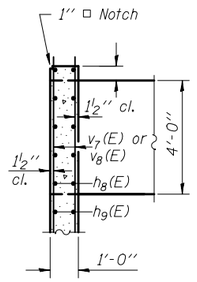
SIDE ELEVATION



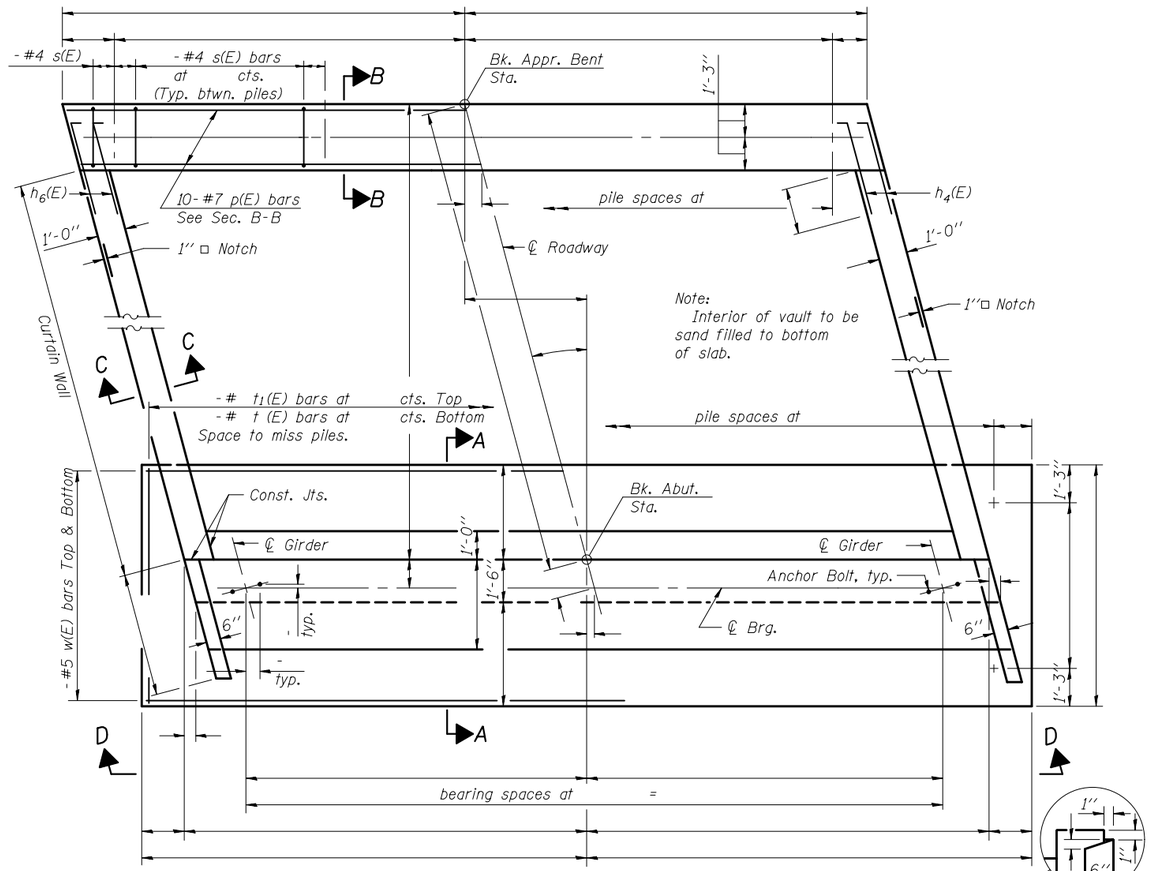
SECTION A-A



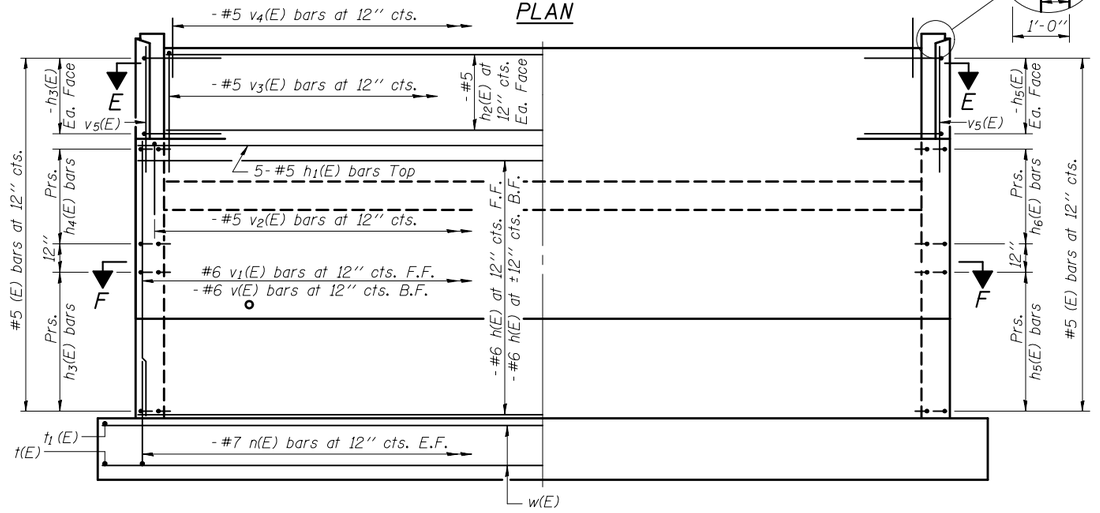
SECTION B-B



SECTION C-C



PLAN



VIEW D-D

Notes:
Space reinforcement in cap to miss anchor bolts.
For details of piles, see sheet - of -.

AV-S-L 7-1-10

(Sheet 1 of 2)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
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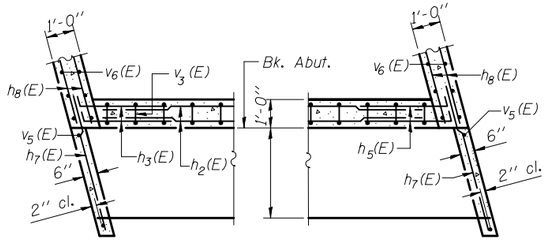
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

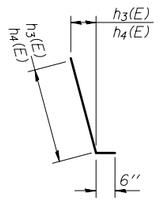
ABUTMENT DETAILS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

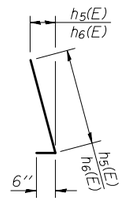


SECTION E-E

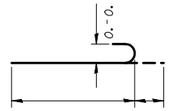
SECTION F-F



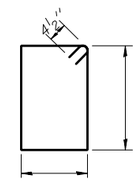
BARS $h_3(E)$ & $h_4(E)$



BARS $h_5(E)$ & $h_6(E)$

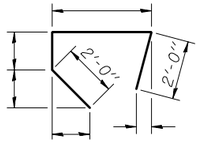


BAR n(E)

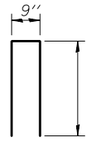


BAR s(E)

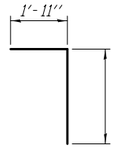
BAR $v_1(E)$



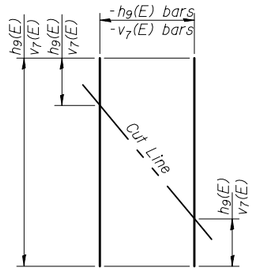
BAR $v_2(E)$



BAR $v_3(E)$



BAR $v_9(E)$



FIELD CUTTING DIAGRAM

* Order $h_9(E)$ & $v_7(E)$ bars full length. Cut to fit as shown and use remainder of bars in other face.

APPR. BENT-PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUT.- PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#6		———
$h_1(E)$		#5		———
$h_2(E)$		#5		———
$h_3(E)$		#5		⌞
$h_4(E)$		#5		⌞
$h_5(E)$		#5		⌟
$h_6(E)$		#5		⌟
$h_7(E)$		#4		———
$h_8(E)$		#5		———
$h_9(E)$		#5		———
$h_{10}(E)$		#5		———
$h_{11}(E)$		#6		———
n(E)		#7		⊃
p(E)		#7		———
s(E)		#4		⌐
t(E)				———
$t_1(E)$				———
v(E)		#6		———
$v_1(E)$		#6		———
$v_2(E)$		#5		⌐
$v_3(E)$		#5		⌐
$v_4(E)$		#5		———
$v_5(E)$		#4		———
$v_6(E)$		#5		———
$v_7(E)$		#5		———
$v_8(E)$		#5		———
$v_9(E)$		#5		⌐
w(E)		#5		———
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	
Sand Backfill			Cu. Yd.	
Concrete Sealer			Sq. Ft.	

AV-S-L 7-1-10

(Sheet 2 of 2)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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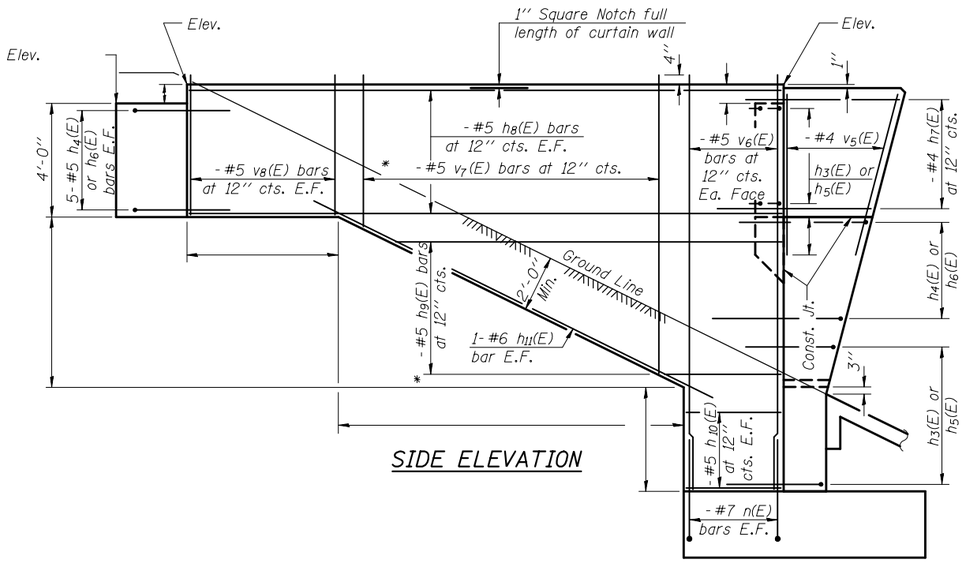
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

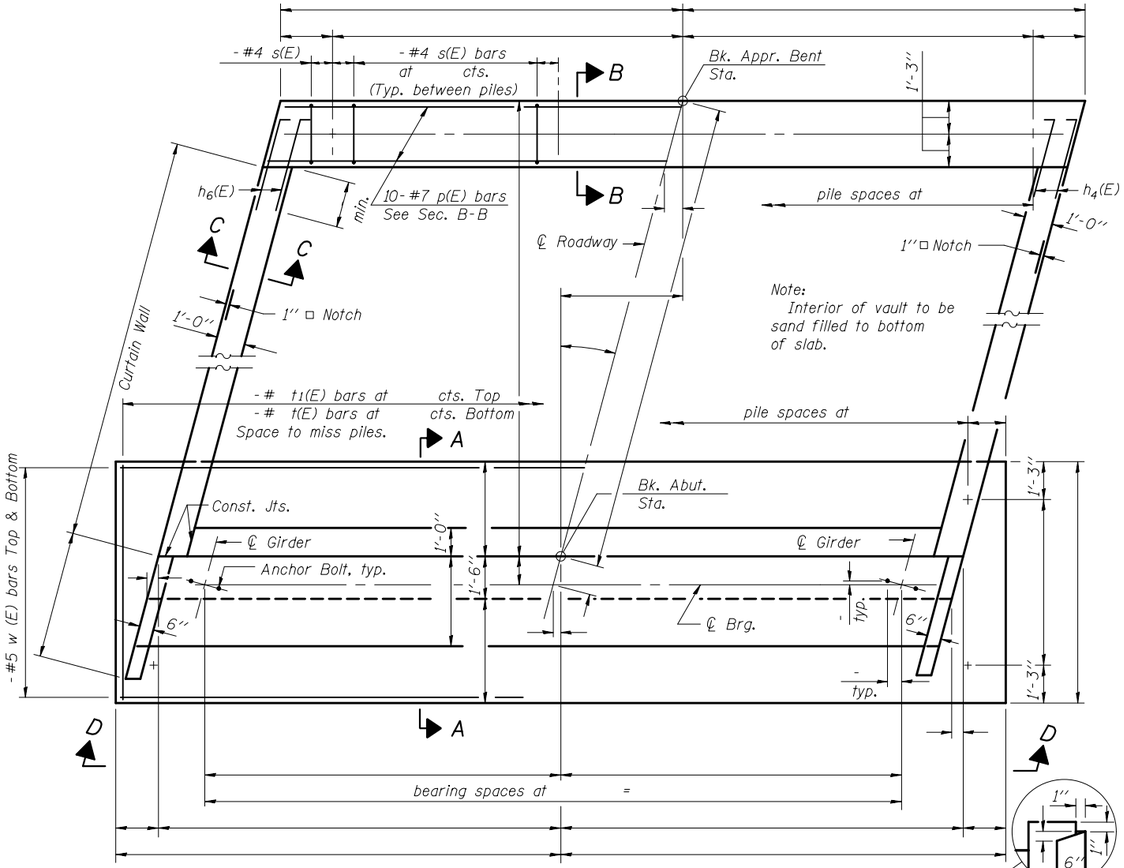
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO.

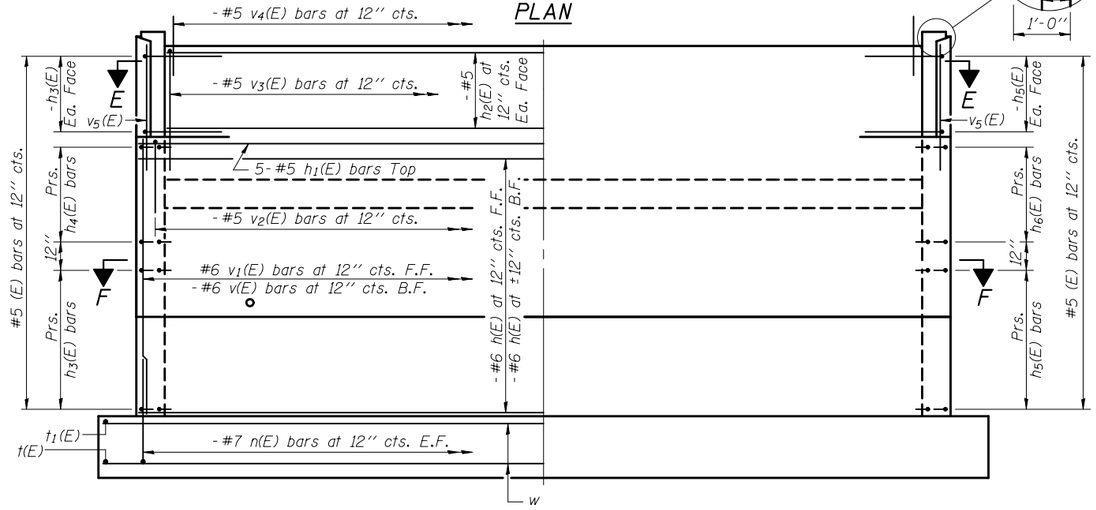
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



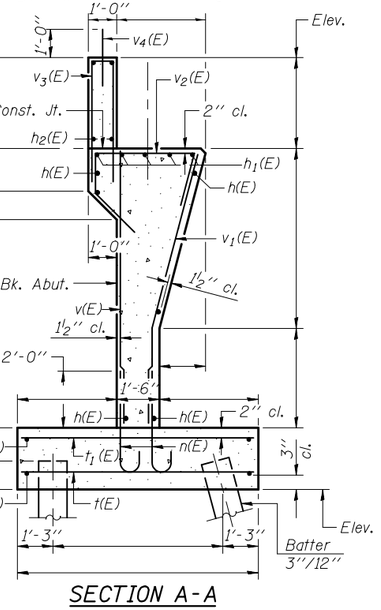
SIDE ELEVATION



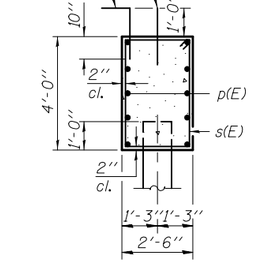
PLAN



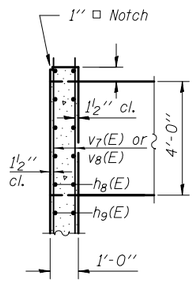
VIEW D-D



SECTION A-A



SECTION B-B



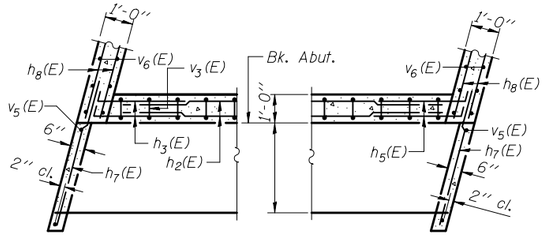
SECTION C-C

Notes:
Space reinforcement in cap to miss anchor bolts.
For details of piles, see sheet - of -.

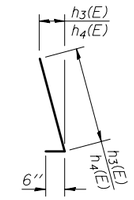
AV-S-R 7-1-10

(Sheet 1 of 2)

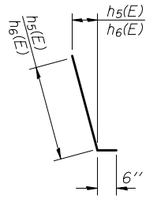
FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENT DETAILS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT



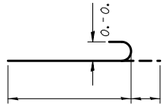
SECTION E-E



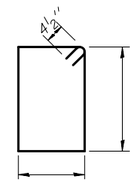
BARS h_3(E) & h_4(E)



BARS h_5(E) & h_6(E)

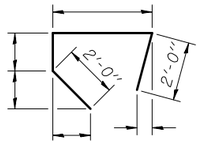


BAR n(E)

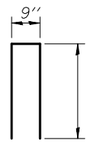


BAR s(E)

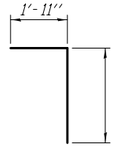
BAR v_1(E)



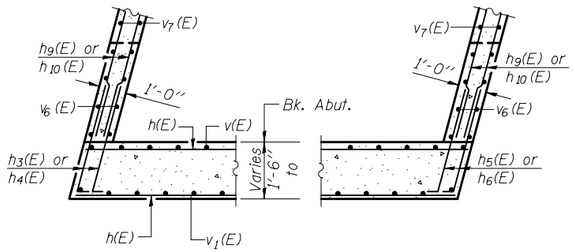
BAR v_2(E)



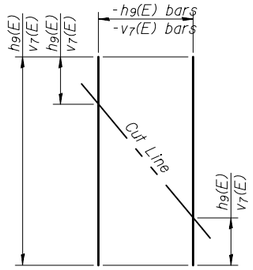
BAR v_3(E)



BAR v_9(E)



SECTION F-F



FIELD CUTTING DIAGRAM

* Order h_9(E) & v_7(E) bars full length. Cut to fit as shown and use remainder of bars in other face.

APPR. BENT-PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

ABUT.- PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#6		—
h_1(E)		#5		—
h_2(E)		#5		—
h_3(E)		#5		L
h_4(E)		#5		L
h_5(E)		#5		J
h_6(E)		#5		J
h_7(E)		#4		—
h_8(E)		#5		—
h_9(E)		#5		—
h_{10}(E)		#5		—
h_{11}(E)		#6		—
n(E)		#7		⊃
p(E)		#7		—
s(E)		#4		□
t(E)				—
t_1(E)				—
v(E)		#6		—
v_1(E)		#6		—
v_2(E)		#5		⊐
v_3(E)		#5		⊓
v_4(E)		#5		—
v_5(E)		#4		—
v_6(E)		#5		—
v_7(E)		#5		—
v_8(E)		#5		—
v_9(E)		#5		¬
w(E)		#5		—
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		
Sand Backfill		Cu. Yd.		
Concrete Sealer		Sq. Ft.		

AV-S-R 7-1-10

(Sheet 2 of 2)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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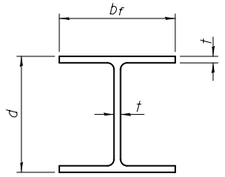
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

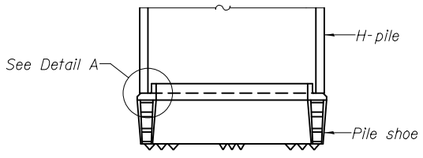
ABUTMENT DETAILS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

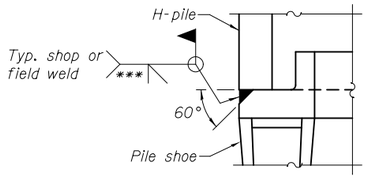


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	30″
x102	14″	$14\frac{3}{4}''$	$\frac{11}{16}''$	30″
x89	$13\frac{7}{8}''$	$14\frac{3}{4}''$	$\frac{5}{8}''$	30″
x73	$13\frac{5}{8}''$	$14\frac{5}{8}''$	$\frac{1}{2}''$	30″
HP 12x84	$12\frac{1}{4}''$	$12\frac{1}{4}''$	$\frac{11}{16}''$	24″
x74	$12\frac{1}{8}''$	$12\frac{1}{4}''$	$\frac{5}{8}''$	24″
x63	12″	$12\frac{1}{8}''$	$\frac{1}{2}''$	24″
x53	$11\frac{3}{4}''$	12″	$\frac{7}{16}''$	24″
HP 10x57	10″	$10\frac{1}{4}''$	$\frac{9}{16}''$	24″
x42	$9\frac{3}{4}''$	$10\frac{1}{8}''$	$\frac{7}{16}''$	24″
HP 8x36	8″	$8\frac{1}{8}''$	$\frac{7}{16}''$	18″

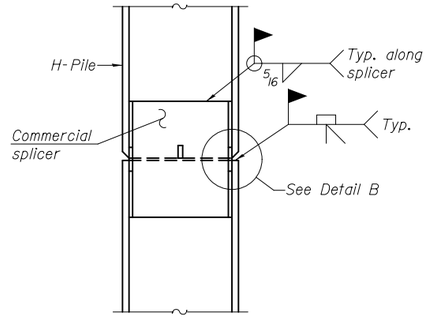


ELEVATION

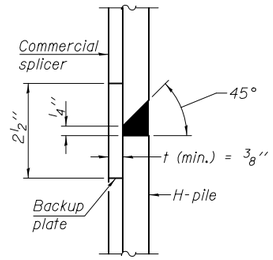


DETAIL A

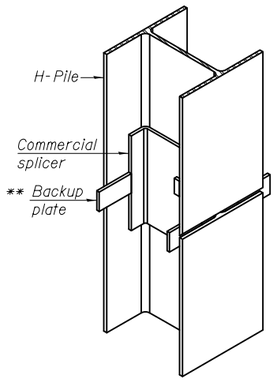
H-PILE SHOE ATTACHMENT



ELEVATION

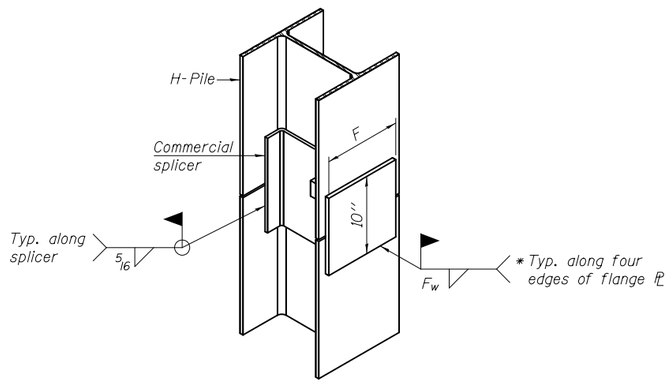


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



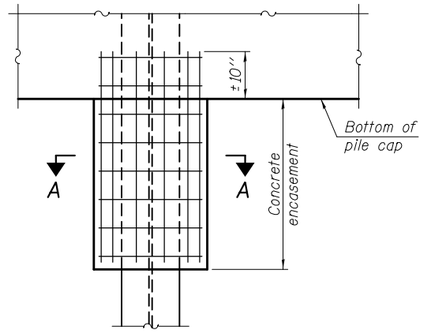
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

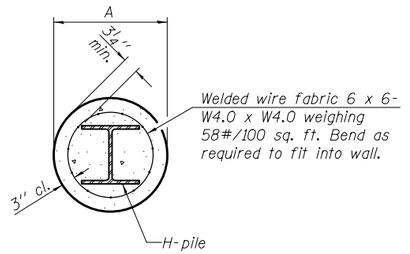
* Interrupt welds ¼″ from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer ($\frac{5}{16}''$ min.).



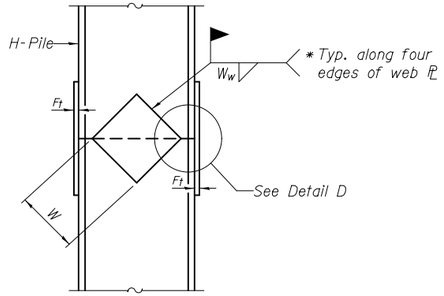
ELEVATION



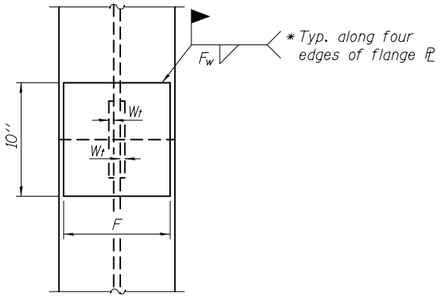
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

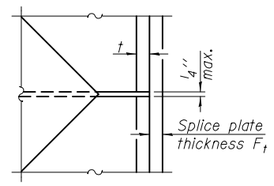
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

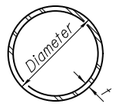
Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	$12\frac{1}{2}''$	1″	$\frac{7}{8}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x102	$12\frac{1}{2}''$	$\frac{7}{8}''$	$\frac{3}{4}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x89	$12\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{11}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x73	$12\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{9}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
HP 12x84	10″	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x74	10″	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x63	10″	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x53	10″	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 10x57	8″	$\frac{3}{4}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x42	8″	$\frac{5}{8}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 8x36	7″	$\frac{5}{8}''$	$\frac{7}{16}''$	$4\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$

WELDED PLATE FIELD SPLICE

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

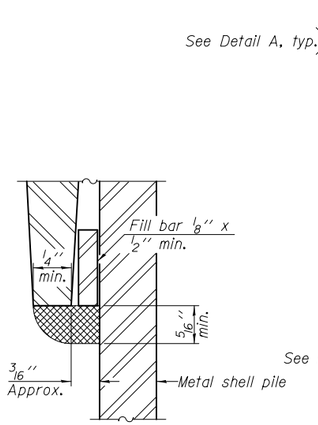
F-HP 1-27-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -							
	PLOT SCALE =	DRAWN -	REVISED -					CONTRACT NO.		
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS	FED. AID PROJECT		

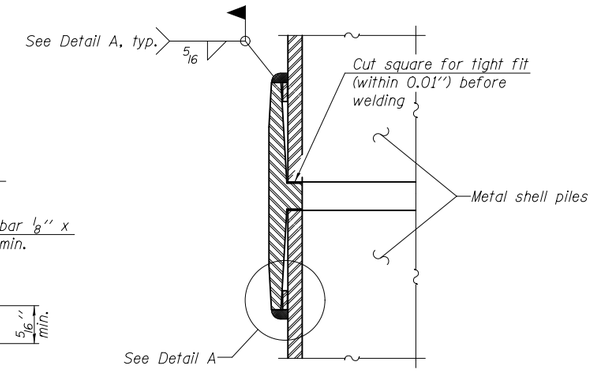


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361

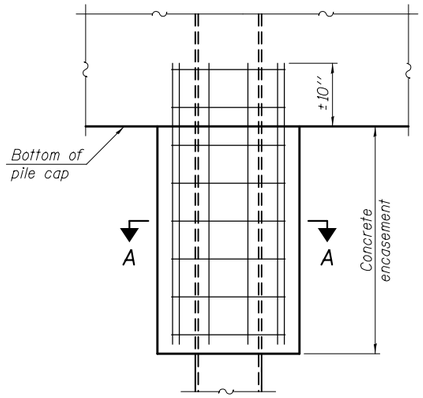


DETAIL A

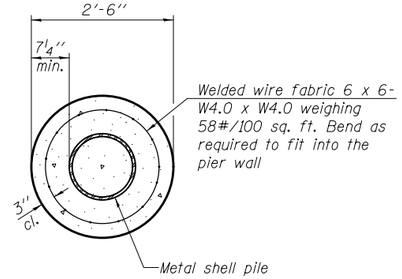


Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



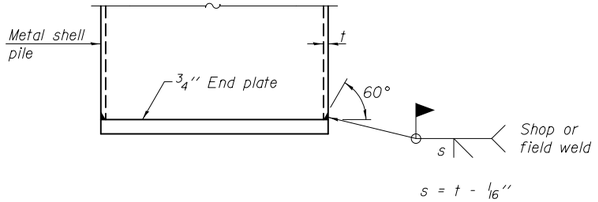
ELEVATION



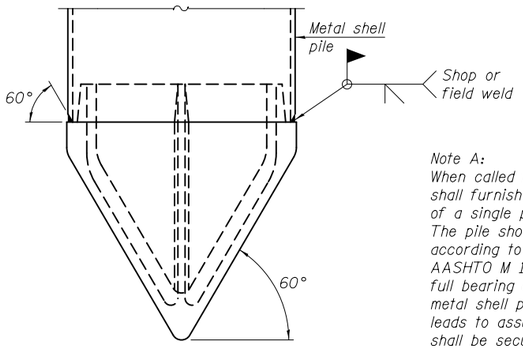
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



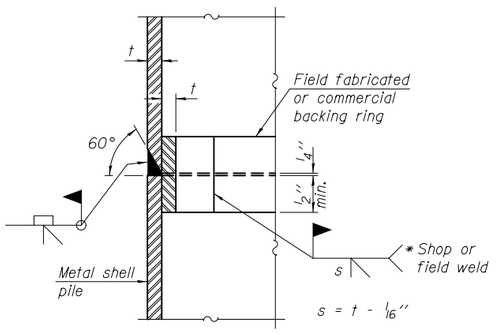
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

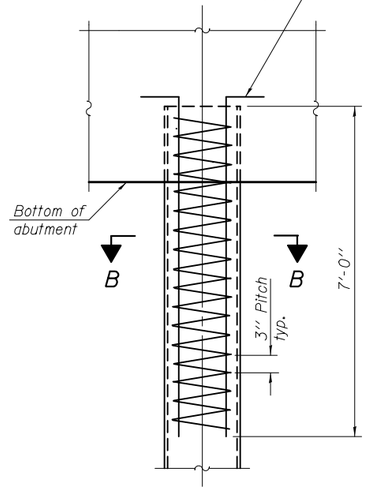
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

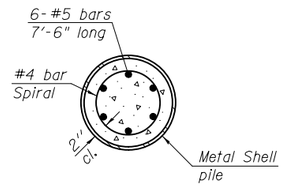


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



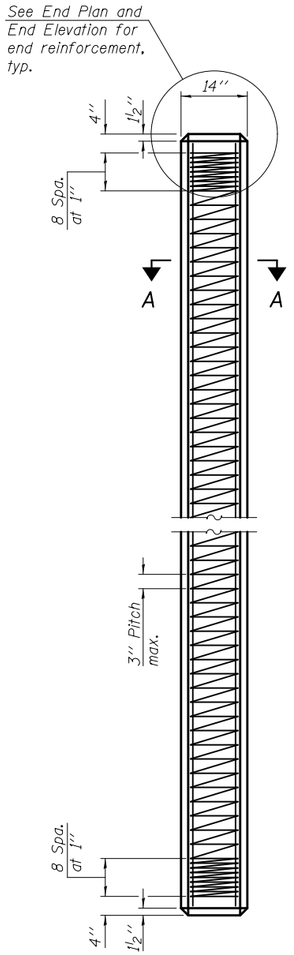
SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

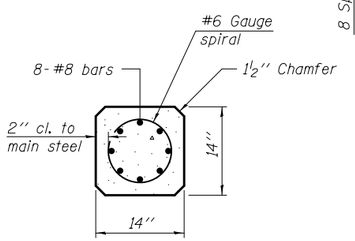
Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS 1-27-12

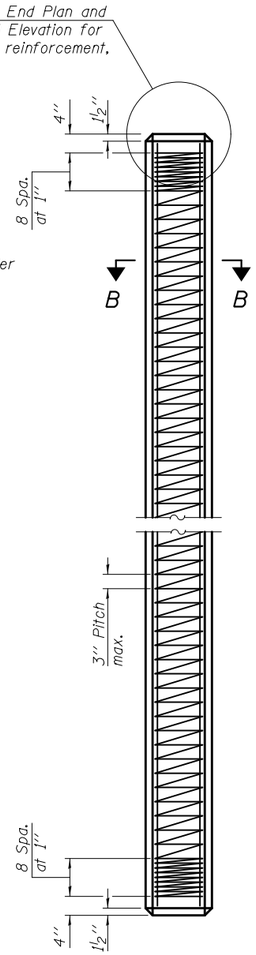
FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	METAL SHELL PILE DETAILS STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				
	PLOT SCALE =	DRAWN -	REVISED -				CONTRACT NO.
	PLOT DATE =	CHECKED -	REVISED -				ILLINOIS FED. AID PROJECT



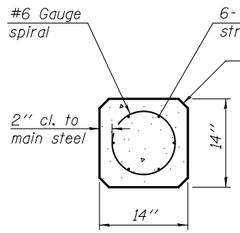
PRECAST CONCRETE PILE



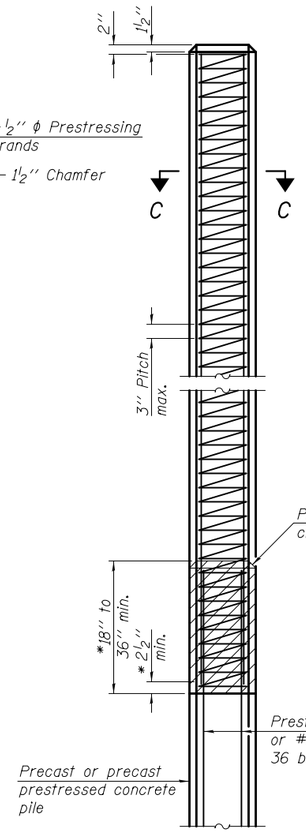
SECTION A-A



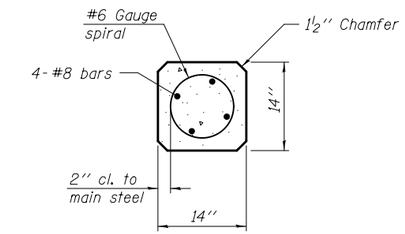
PRECAST PRESTRESSED CONCRETE PILE



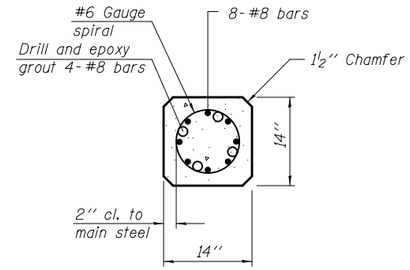
SECTION B-B



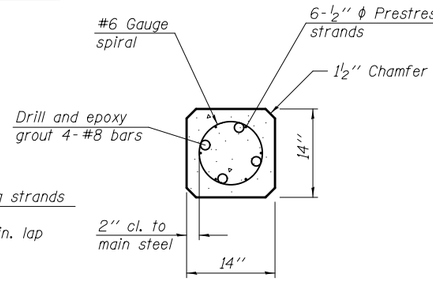
STANDARD PILE EXTENSION



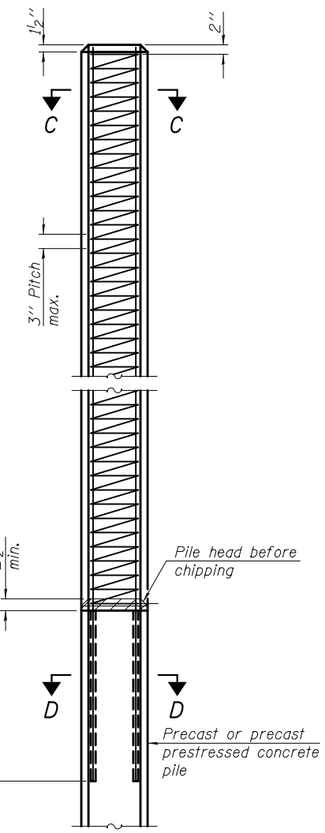
SECTION C-C



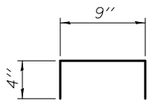
SECTION D-D
(Precast)



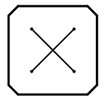
SECTION D-D
(Precast prestressed)



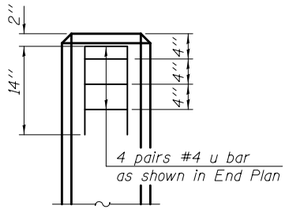
ALTERNATE PILE EXTENSION



BAR u



END PLAN
(End reinforcement only)



END ELEVATION
(End reinforcement only)

NOTES

Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand. The nominal diameter shall be ½'' with a cross-sectional area of 0.153 in^2.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L* from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L* from each end and at midpoint of pile. *L= Overall length of pile to be handled.

For handling pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For handling piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at midpoint of pile.

* To construct pile extension , chip top of pile back 36 bar ϕ min. to expose vertical bars and lap vertical buildup bars. Remove spiral to 2½'' min. above chipping and provide full strength lap weld exterior face (4'' min. length).

** To construct pile extension, chip top of pile back 2½'' to expose wire spiral and provide full strength lap weld exterior face (4'' min. length).

DESIGN STRESSES

f'_c = 5,000 p.s.i.(prestressed)
f'_c = 4,500 p.s.i. (precast)
f'_{ci} = 4,000 p.s.i.
f'_s = 270,000 p.s.i. (41,300 lbs.-½'' ϕ)
f_{si} = 189,000 p.s.i. (28,900 lbs.-½'' ϕ)

F-PC 7-1-10

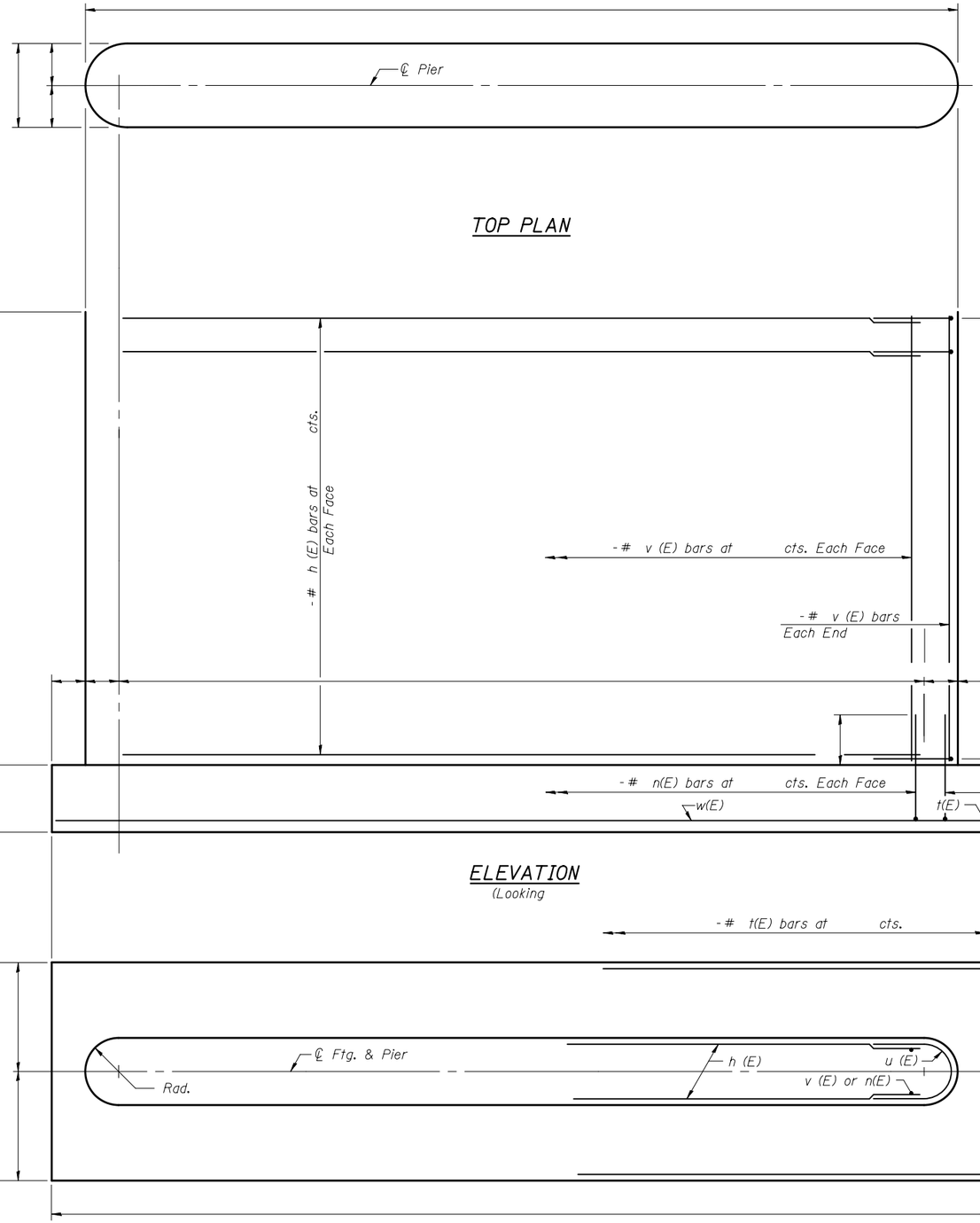
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST PILE DETAILS
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
ILLINOIS FED. AID PROJECT				

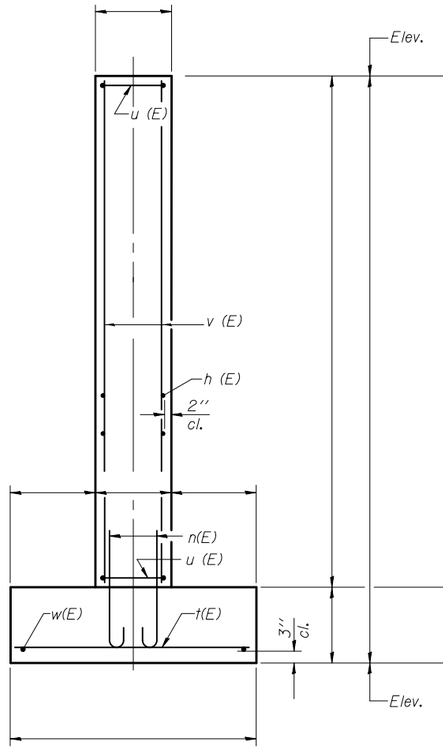
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.



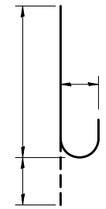
TOP PLAN

ELEVATION
(Looking

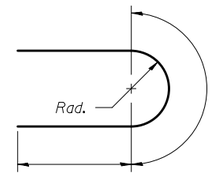
FOOTING PLAN



END VIEW



BAR n(E)



BAR u (E)

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
n(E)		#		
t (E)		#		
u (E)		#		
v (E)		#		
w (E)		#		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

P-1

7-1-10

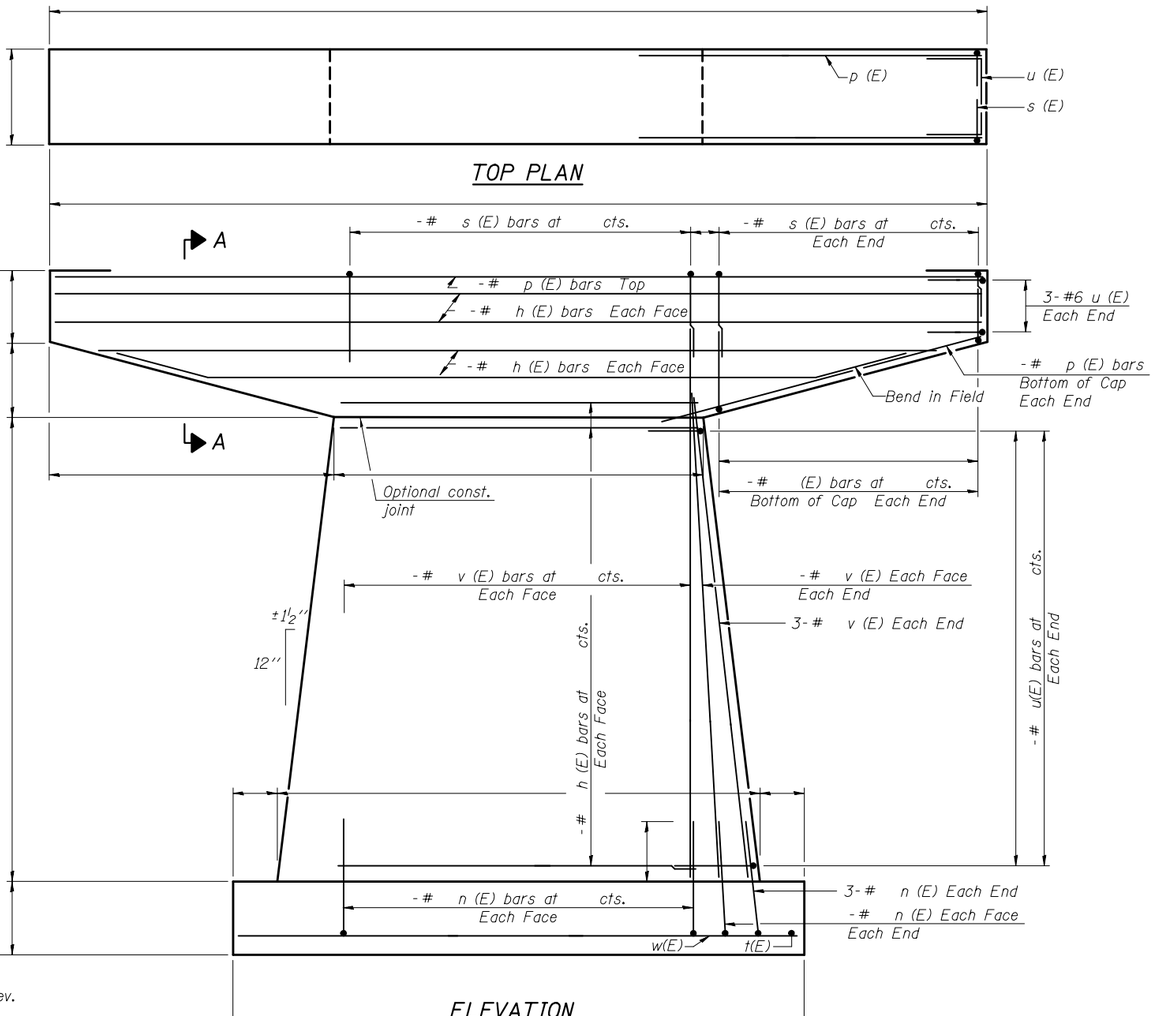
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

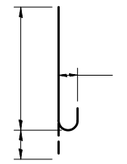
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

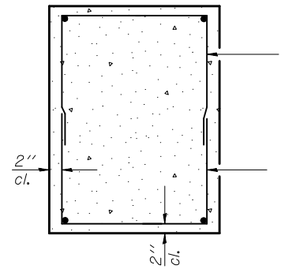
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

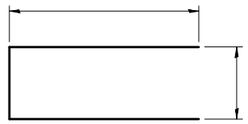




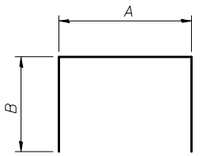
BAR n (E)
& n (E)



SECTION A-A



BAR u (E)



BARS

A & B DIMENSIONS

Bar	A	B

BARS

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n (E)				
p (E)				
p (E)				
s (E)				
s (E)				
s (E)				
t (E)				
u (E)				
v (E)				
w (E)				
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles.		Foot		
Driving Piles		Foot		
Test Pile.		Each		

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

P-2

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

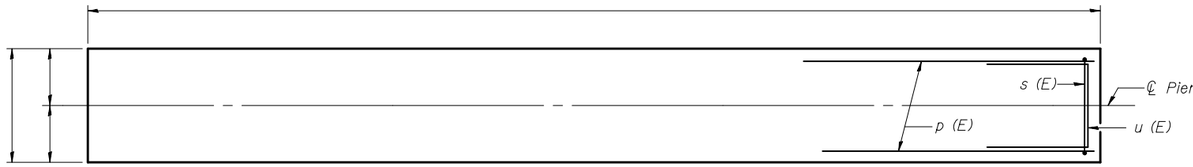
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

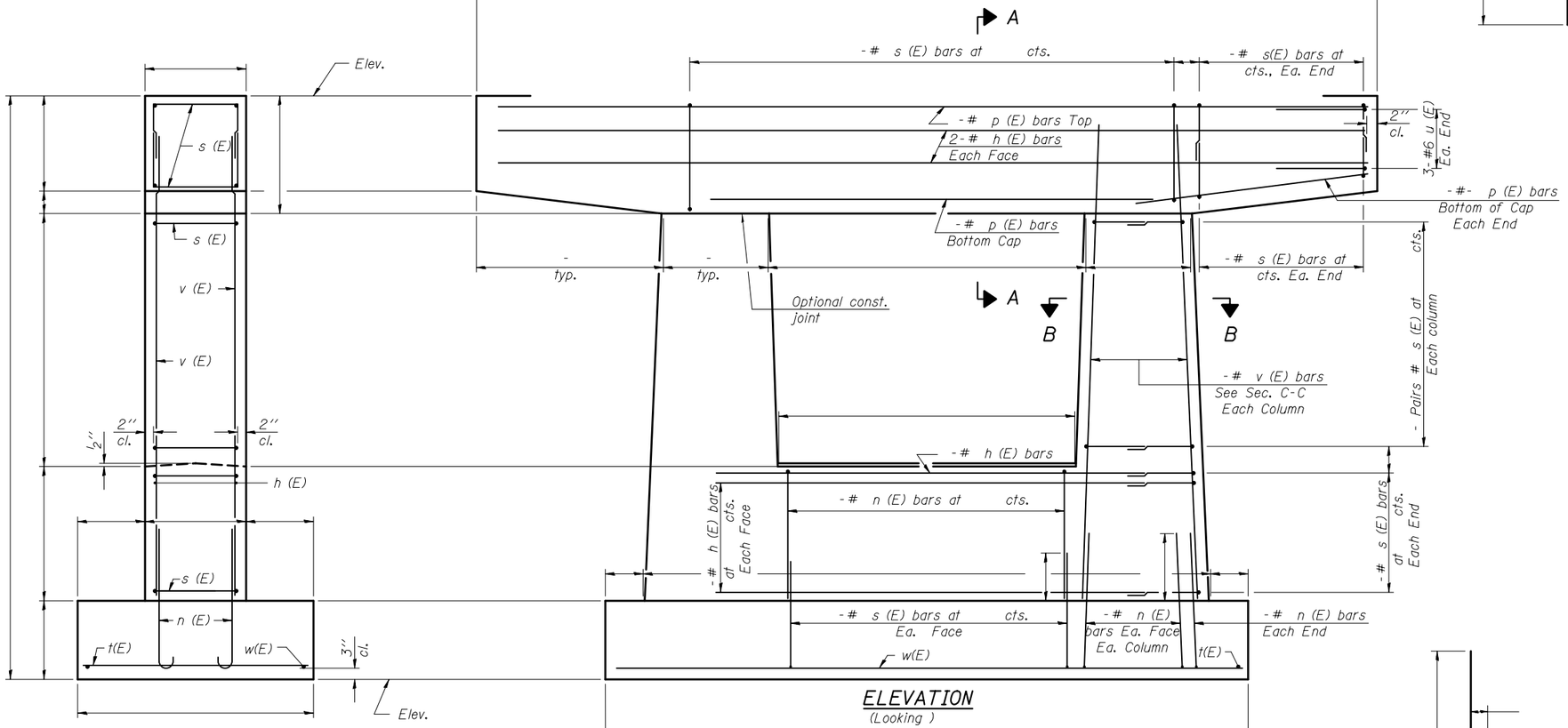
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

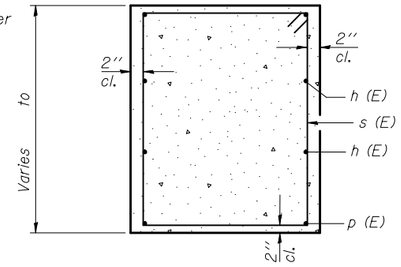


TOP PLAN

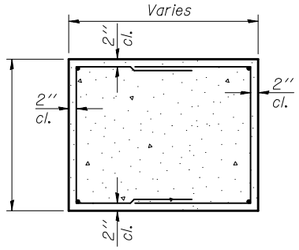


ELEVATION
(Looking)

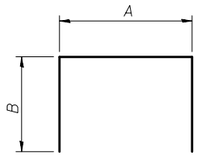
END VIEW



SECTION A-A



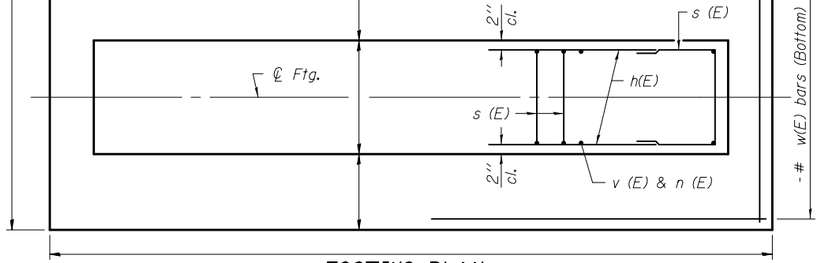
SECTION B-B



BARS

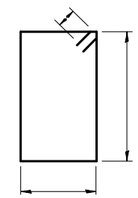
A & B DIMENSIONS

Bar	A	B

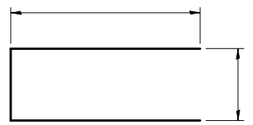


FOOTING PLAN

BAR n (E) & n (E)



BAR s (E)



BAR u (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n(E)				
n (E)				
p (E)				
p (E)				
p (E)				
s (E)				
s (E)				
s (E)				
t (E)				
u (E)				
v (E)				
w (E)				
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

P-3

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

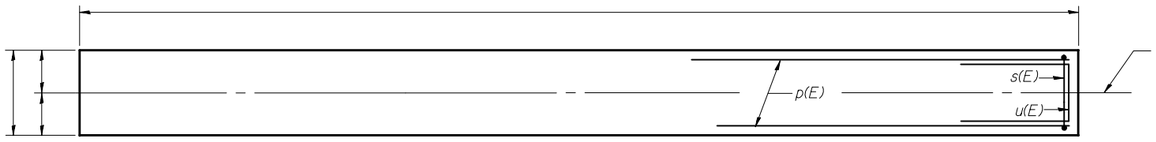
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

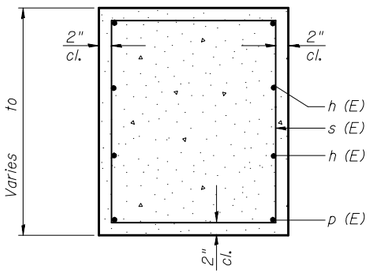
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

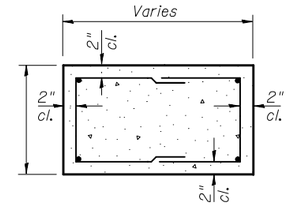
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



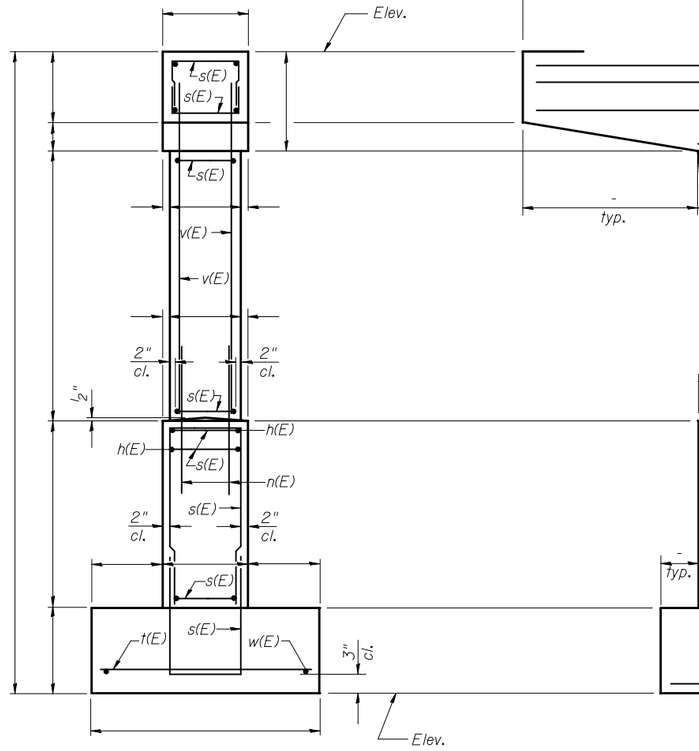
TOP PLAN



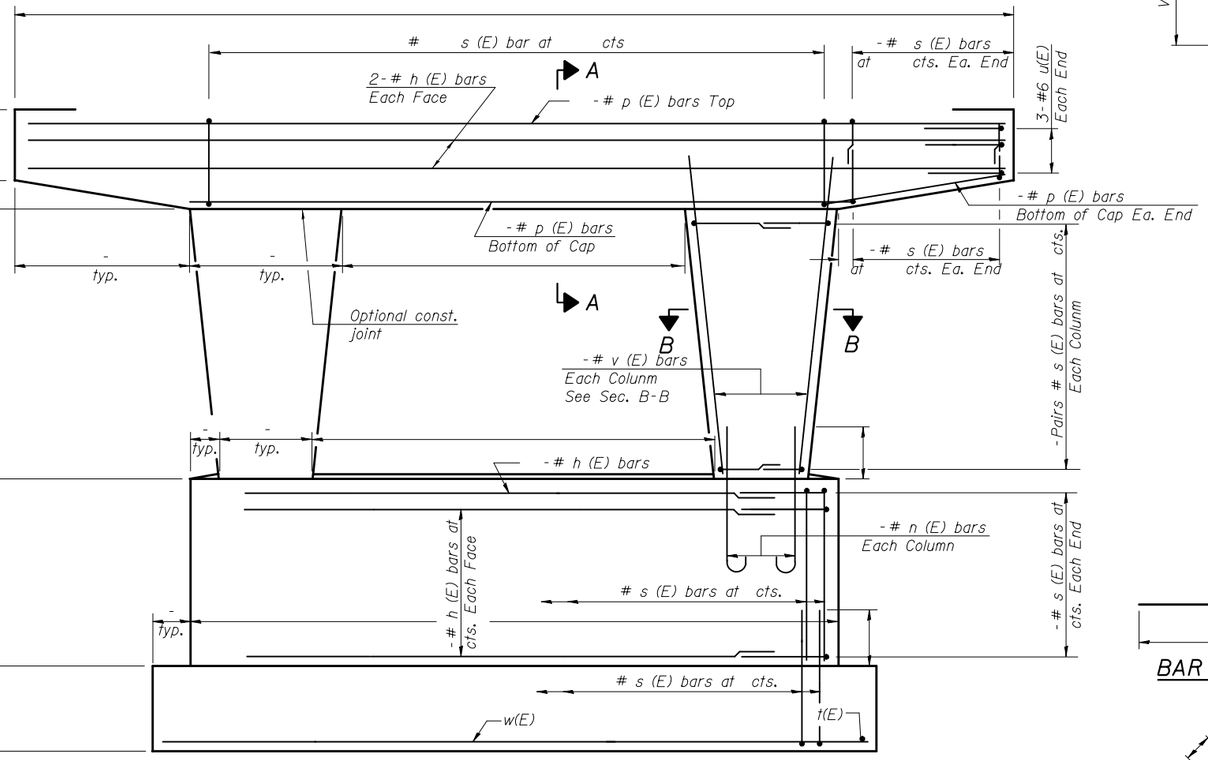
SECTION A-A



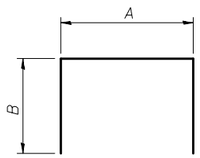
SECTION B-B



END VIEW



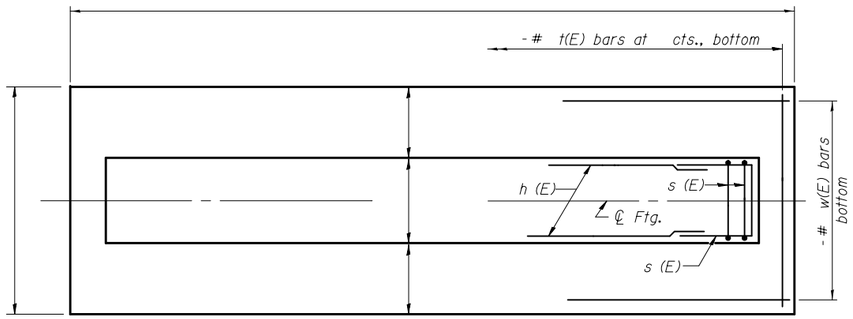
ELEVATION
(Looking)



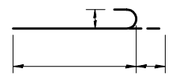
BARS

A & B DIMENSIONS

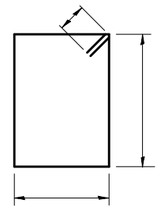
Bar	A	B



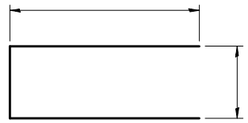
FOOTING PLAN



BAR n (E)



BAR s (E)



BAR u (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n (E)				
p (E)				
p (E)				
p (E)				
s (E)				
s (E)				
s (E)				
s (E)				
s (E)				
t (E)				
u (E)				
v (E)				
w (E)				
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

P-4

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

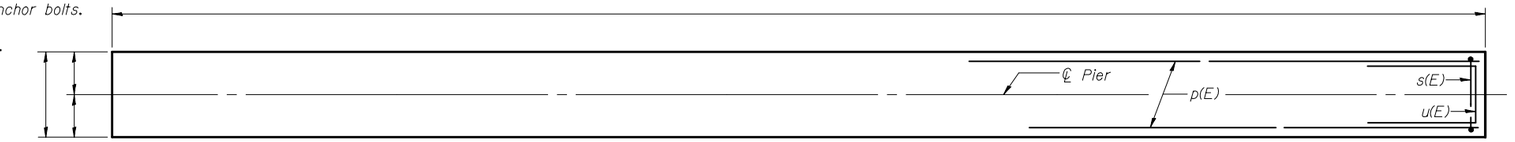
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	

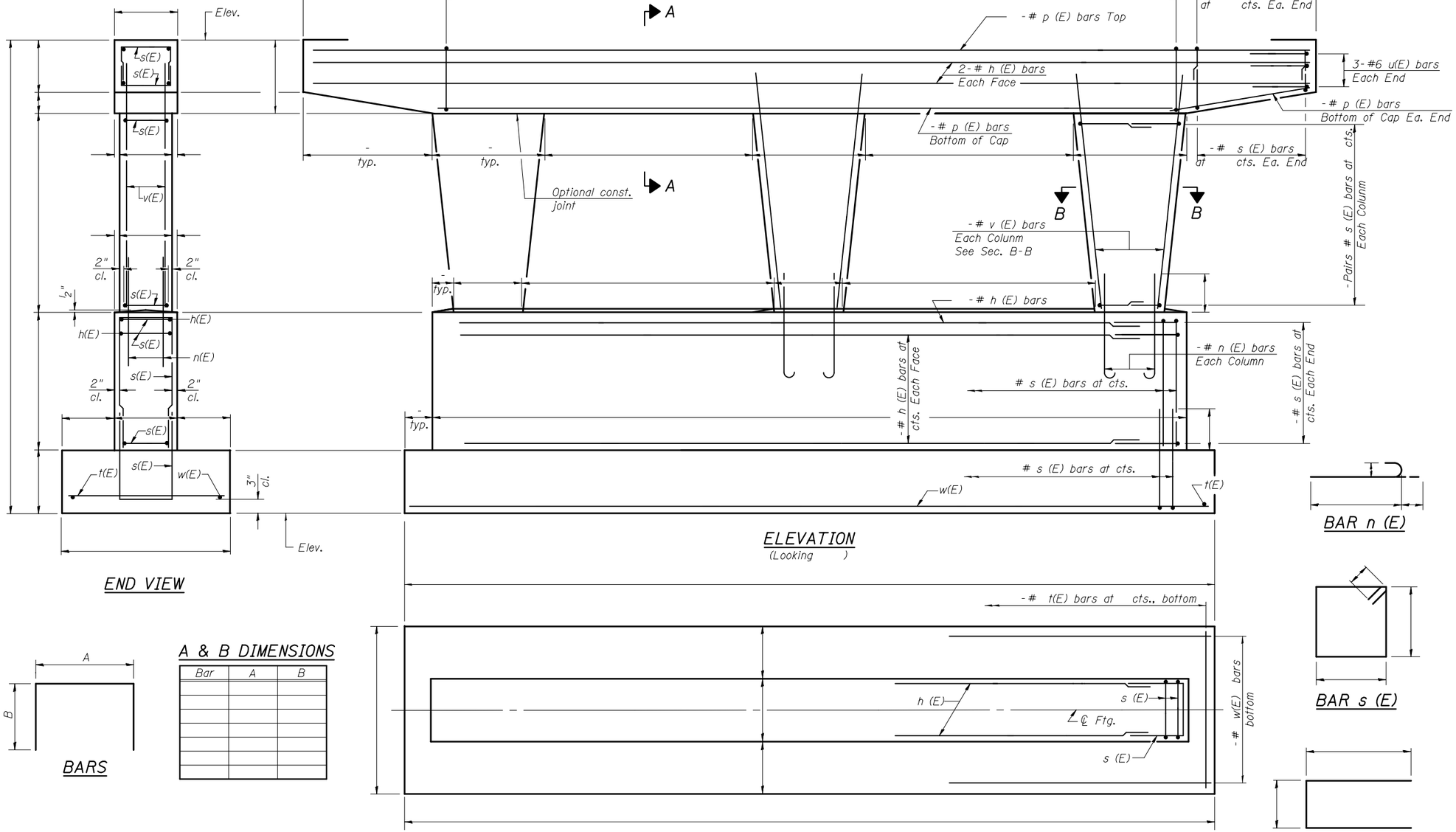
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



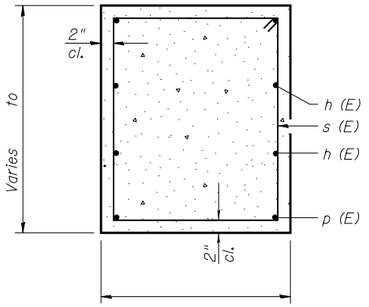
TOP PLAN



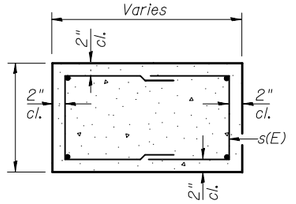
ELEVATION
(Looking)

END VIEW

FOOTING PLAN



SECTION A-A



SECTION B-B

BAR n (E)

BAR s (E)

BAR u (E)

BARS

A & B DIMENSIONS

Bar	A	B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n (E)				
p (E)				
p (E)				
p (E)				
s (E)				
s (E)				
s (E)				
s (E)				
s (E)				
s (E)				
t (E)				
u (E)				
v (E)				
w (E)				

Structure Excavation	Cu. Yd.	
Concrete Structures	Cu. Yd.	
Reinforcement Bars, Epoxy Coated	Pound	
Furnishing - Piles,	Foot	
Driving Piles	Foot	
Test Pile,	Each	

P-5

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

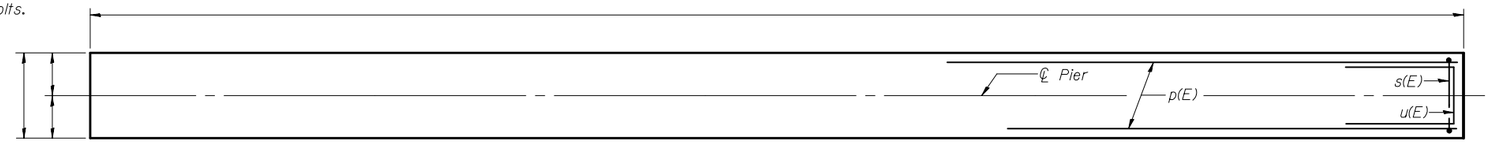
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

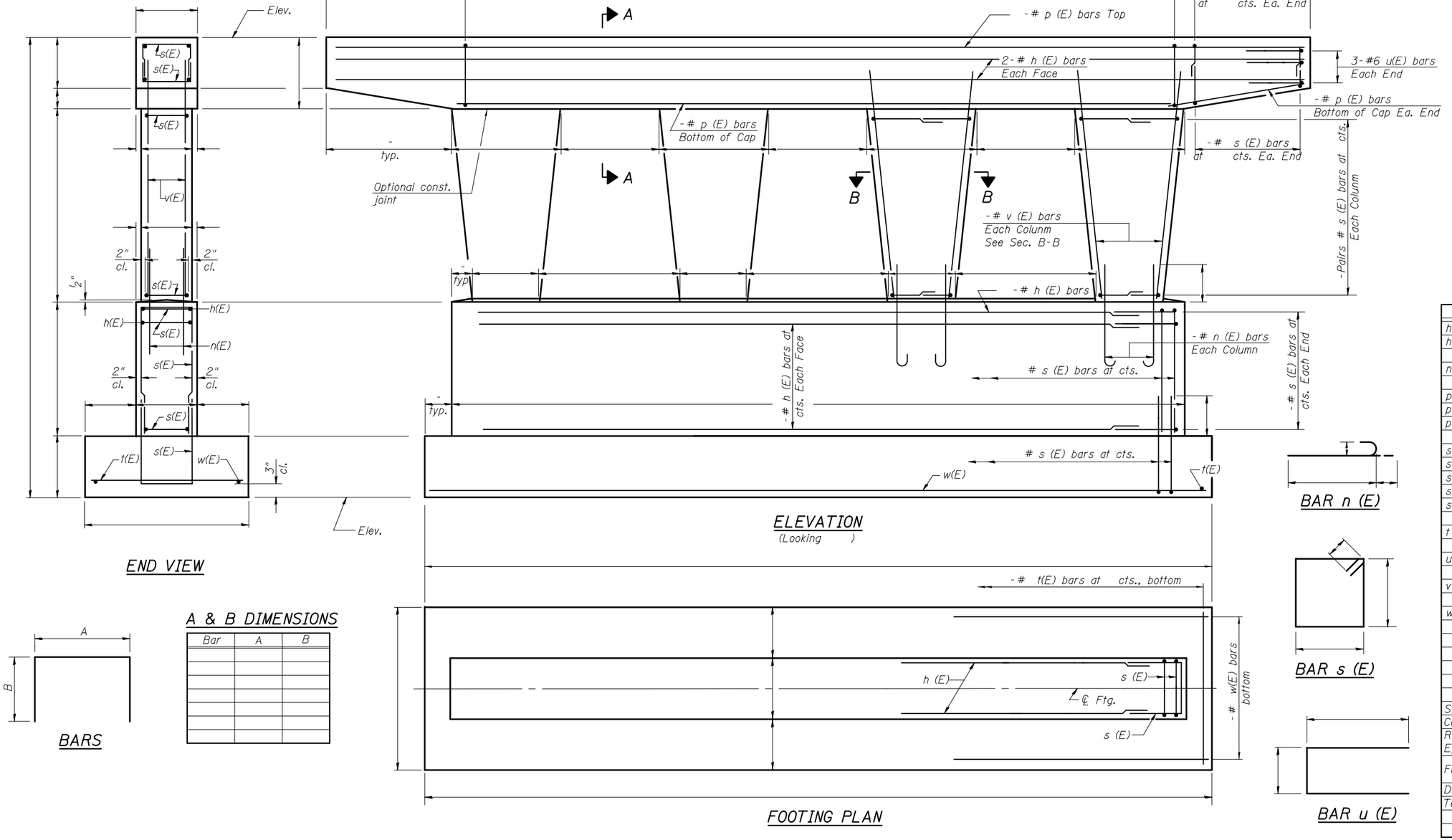
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



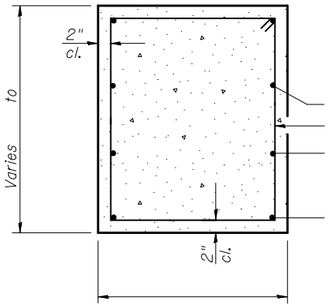
TOP PLAN



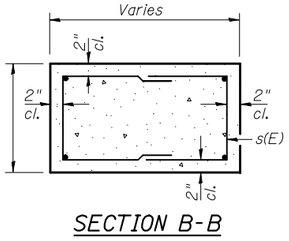
ELEVATION
(Looking)

END VIEW

FOOTING PLAN



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)				
h (E)				
n (E)				
p (E)				
p (E)				
p (E)				
s (E)				
s (E)				
s (E)				
s (E)				
s (E)				
t (E)				
u (E)				
v (E)				
w (E)				
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

BAR n (E)

BAR s (E)

BAR u (E)

A & B DIMENSIONS

Bar	A	B

BARS

P-6

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

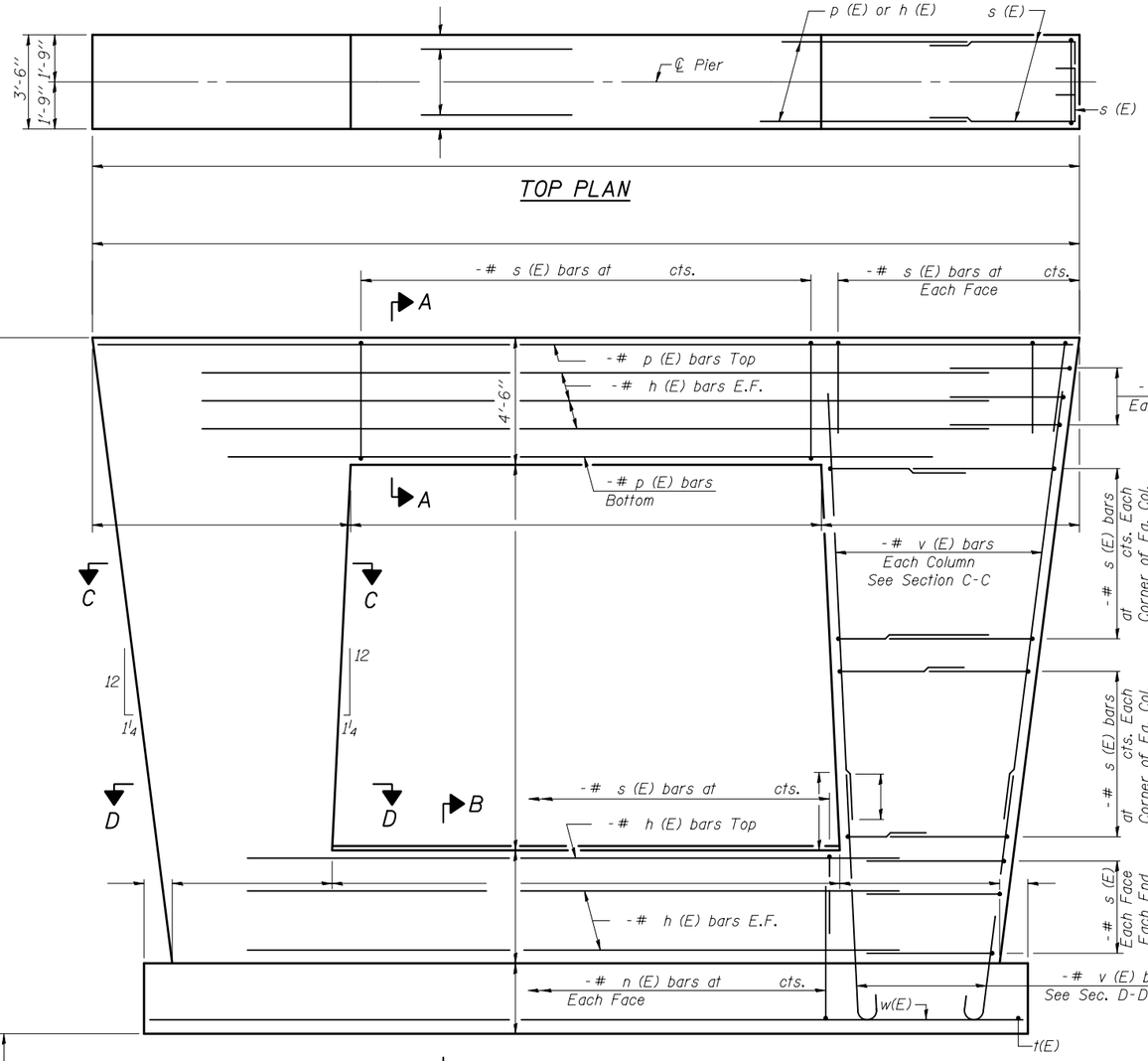
PIER
STRUCTURE NO.

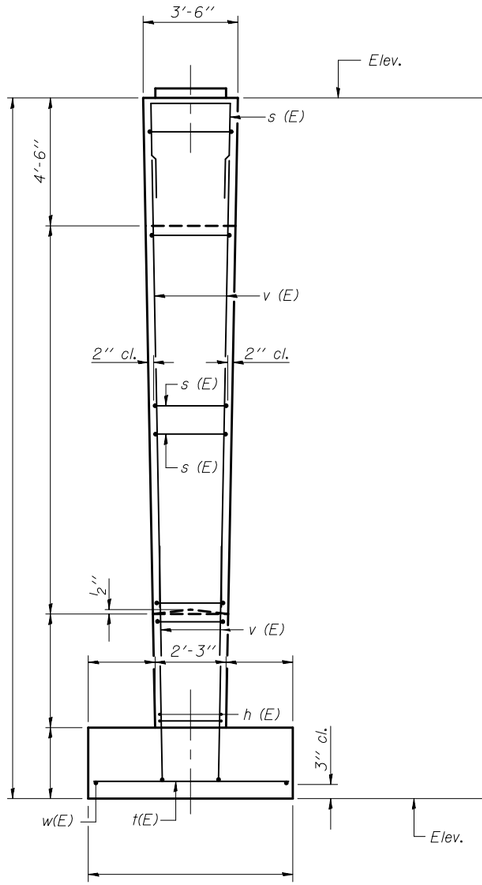
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
ILLINOIS	FED. AID PROJECT			

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

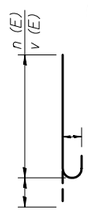
PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

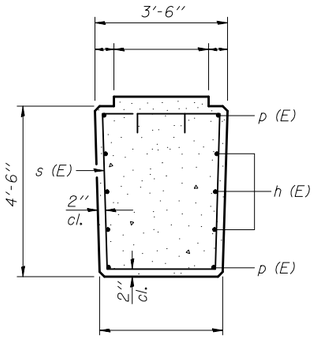




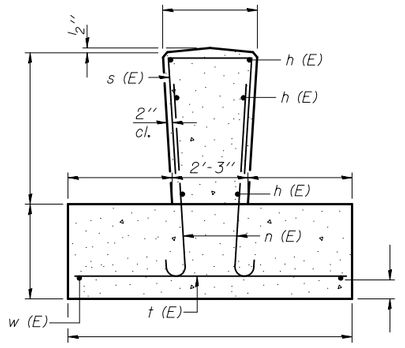
END VIEW



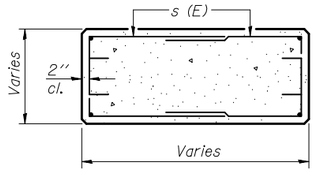
BARS n (E) & v (E)



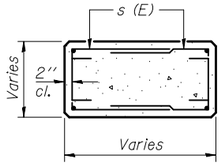
SECTION A-A



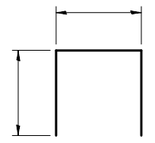
SECTION B-B



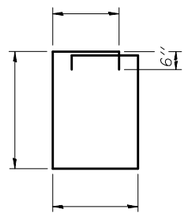
SECTION C-C



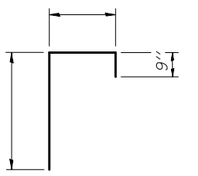
SECTION D-D



BARS s (E) & s (E)



BAR s (E)



BARS s (E) & s (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t(E)		#		
v (E)		#		
v (E)		#		
w(E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles.			Foot	
Driving Piles			Foot	
Test Pile.			Each	

P-7

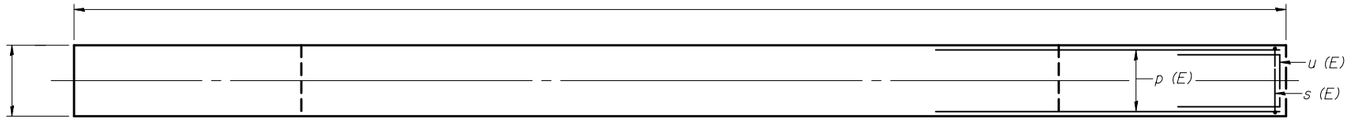
7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER STRUCTURE NO.	F.A. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
		CHECKED -	REVISED -				CONTRACT NO.
	PLOT SCALE =	DRAWN -	REVISED -				ILLINOIS FED. AID PROJECT
	PLOT DATE =	CHECKED -	REVISED -				

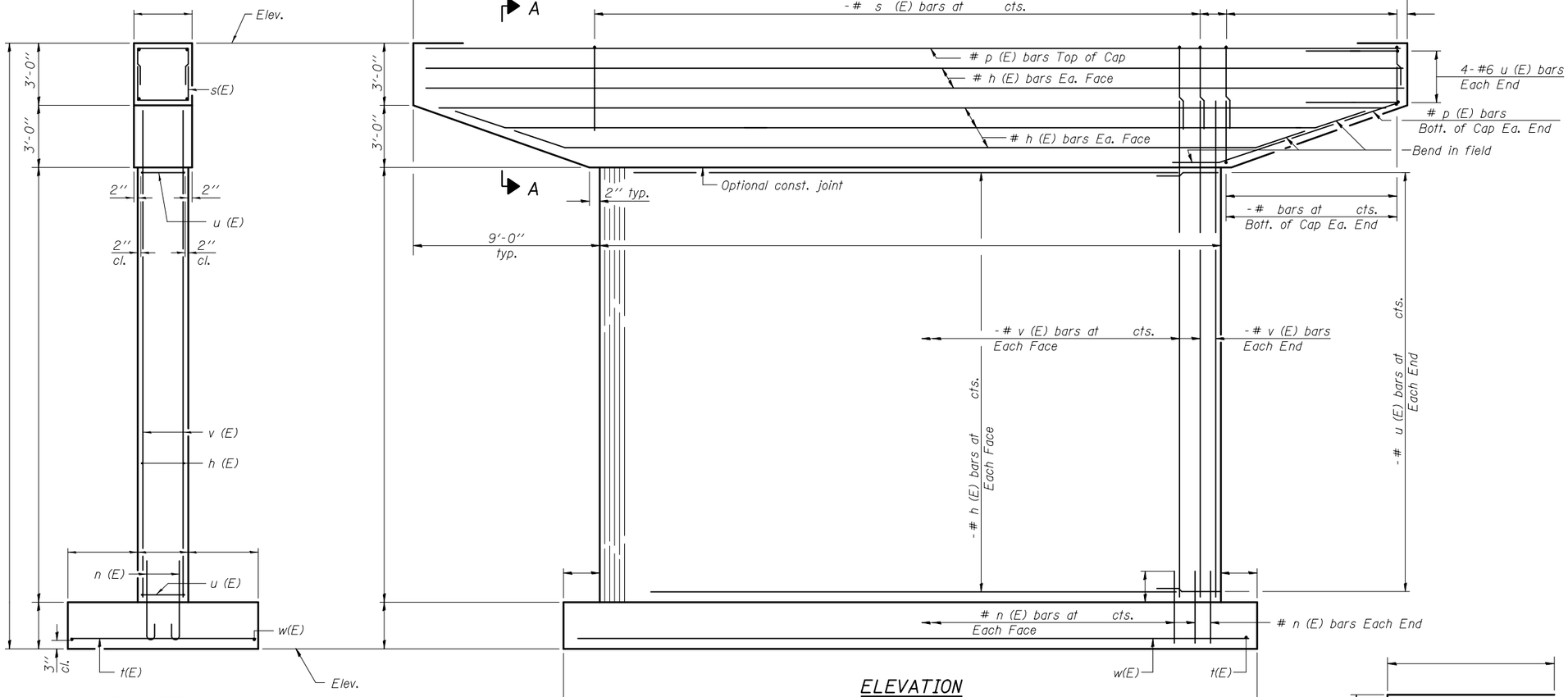
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

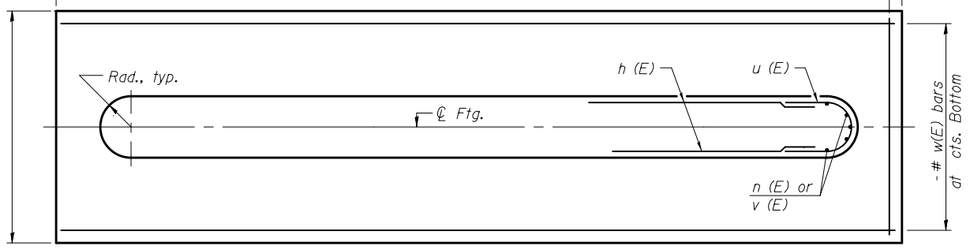


TOP PLAN

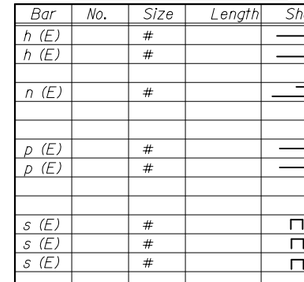


END VIEW

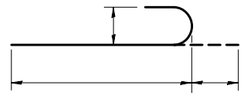
ELEVATION
(Looking)



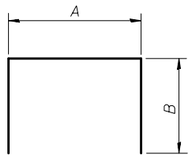
FOOTING PLAN



SECTION A-A



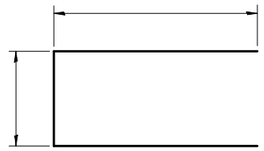
BAR n (E)



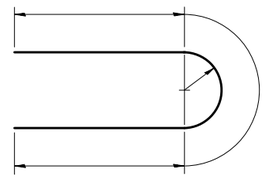
BARS

A & B DIMENSIONS

Bar	A	B



BAR u (E)



BAR u (E)

PIER
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t (E)		#		
u (E)		#		
u (E)		#		
v (E)		#		
w (E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

P-10 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

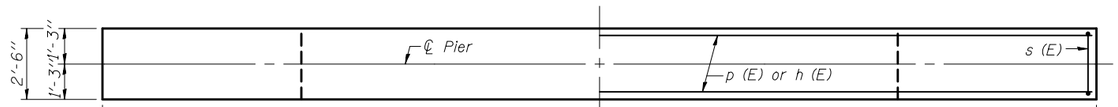
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT

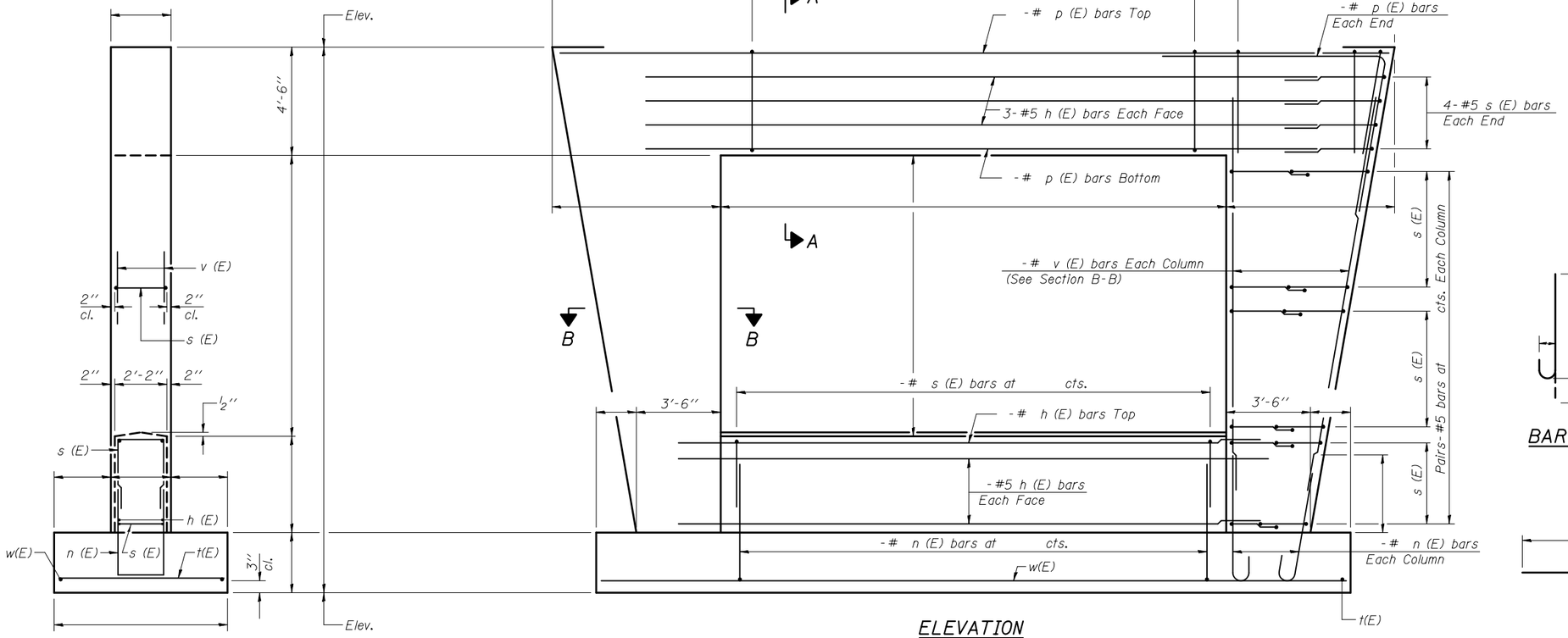
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

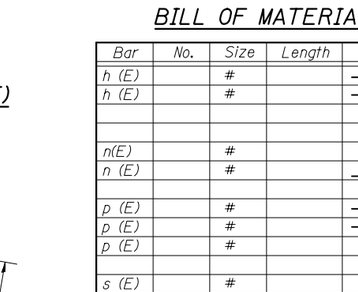
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



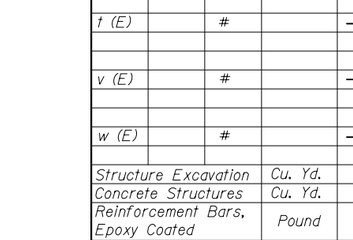
TOP PLAN



ELEVATION
(Looking)

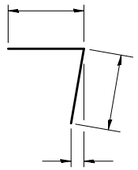


SECTION A-A

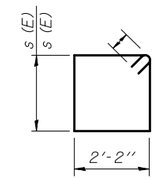


SECTION B-B

BAR n (E)



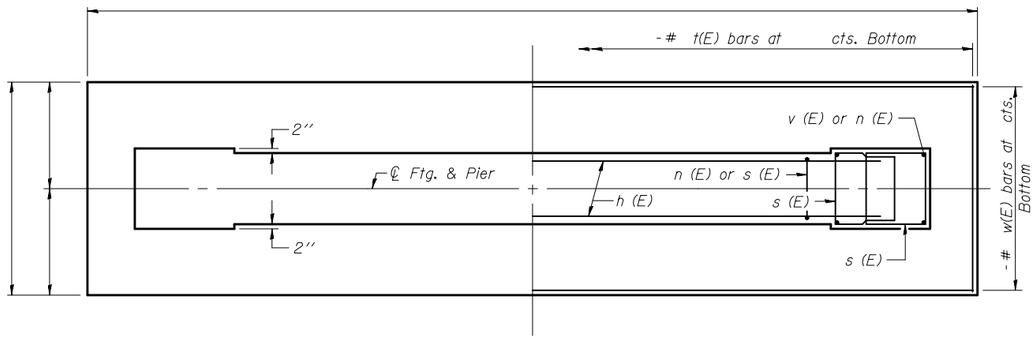
BAR p (E)



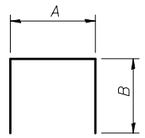
BARS s (E) & s (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n(E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t (E)		#		
v (E)		#		
w (E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



FOOTING PLAN



BARS

A & B DIMENSIONS

Bar	A	B

END VIEW

P-11 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

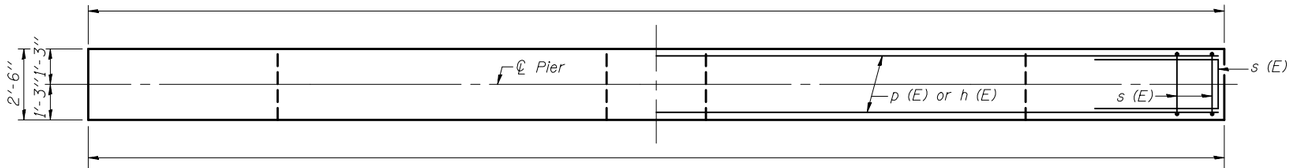
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.
ILLINOIS FED. AID PROJECT

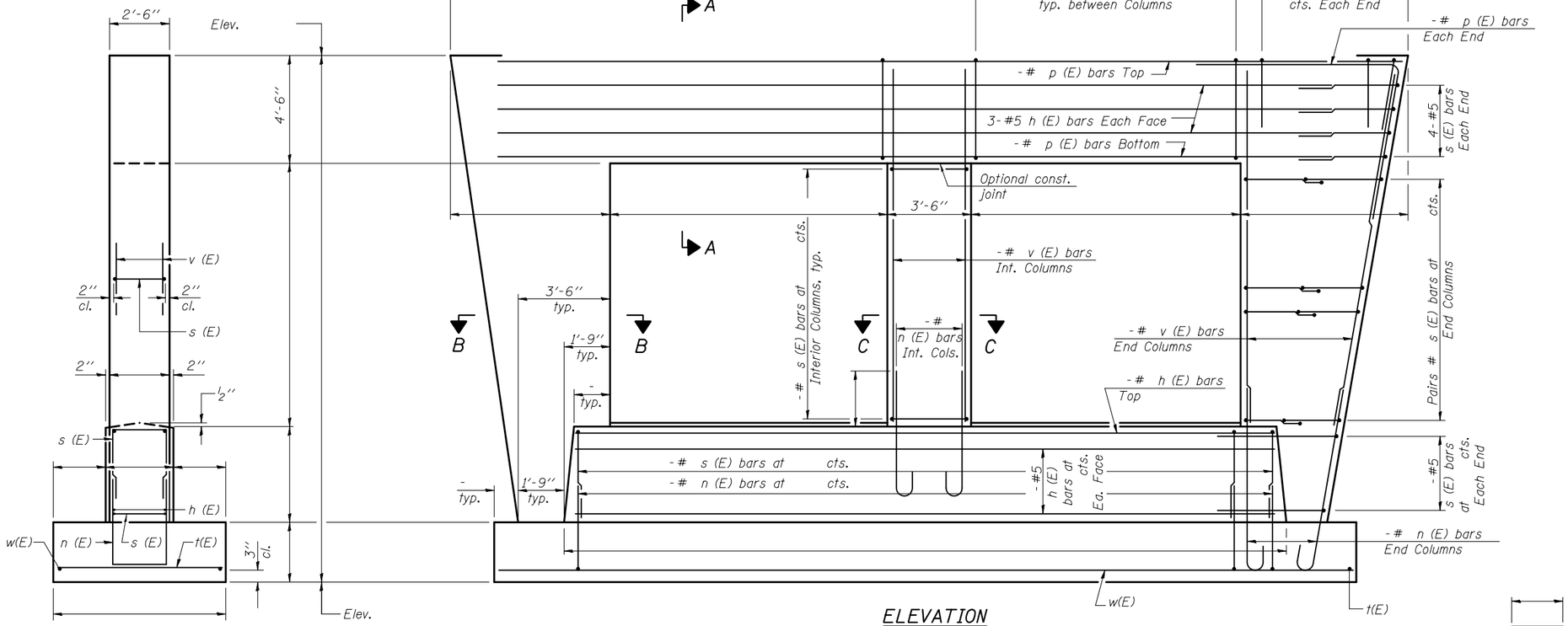
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

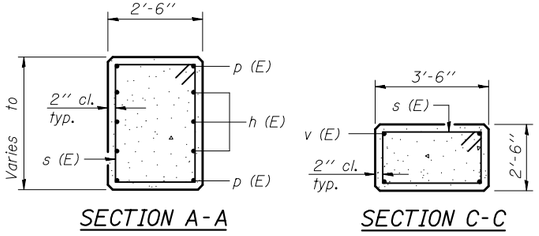
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

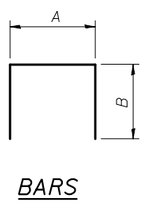


TOP PLAN



ELEVATION
(Looking)



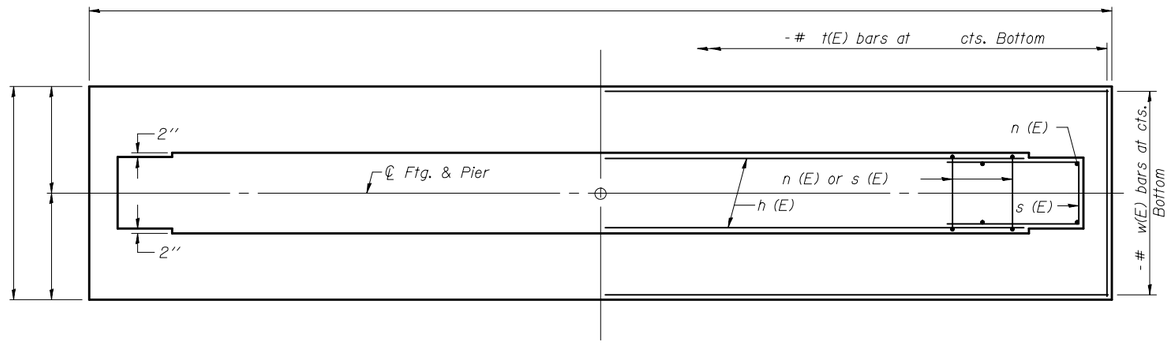


BARS

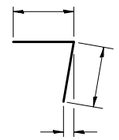
A & B DIMENSIONS

Bar	A	B

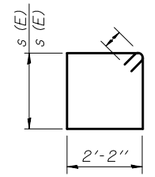
END VIEW



FOOTING PLAN



BAR p (E)



BARS s (E) & s (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
n (E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t (E)		#		
v (E)		#		
w (E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

P-12

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

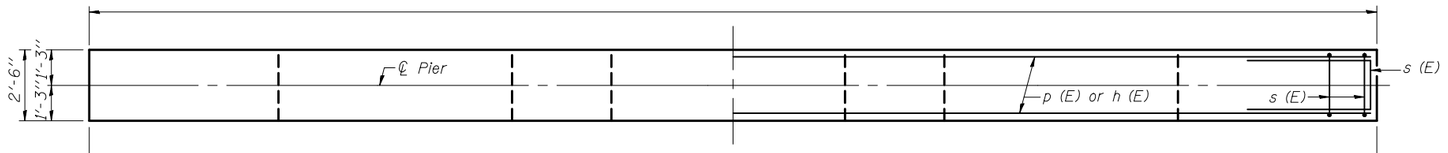
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

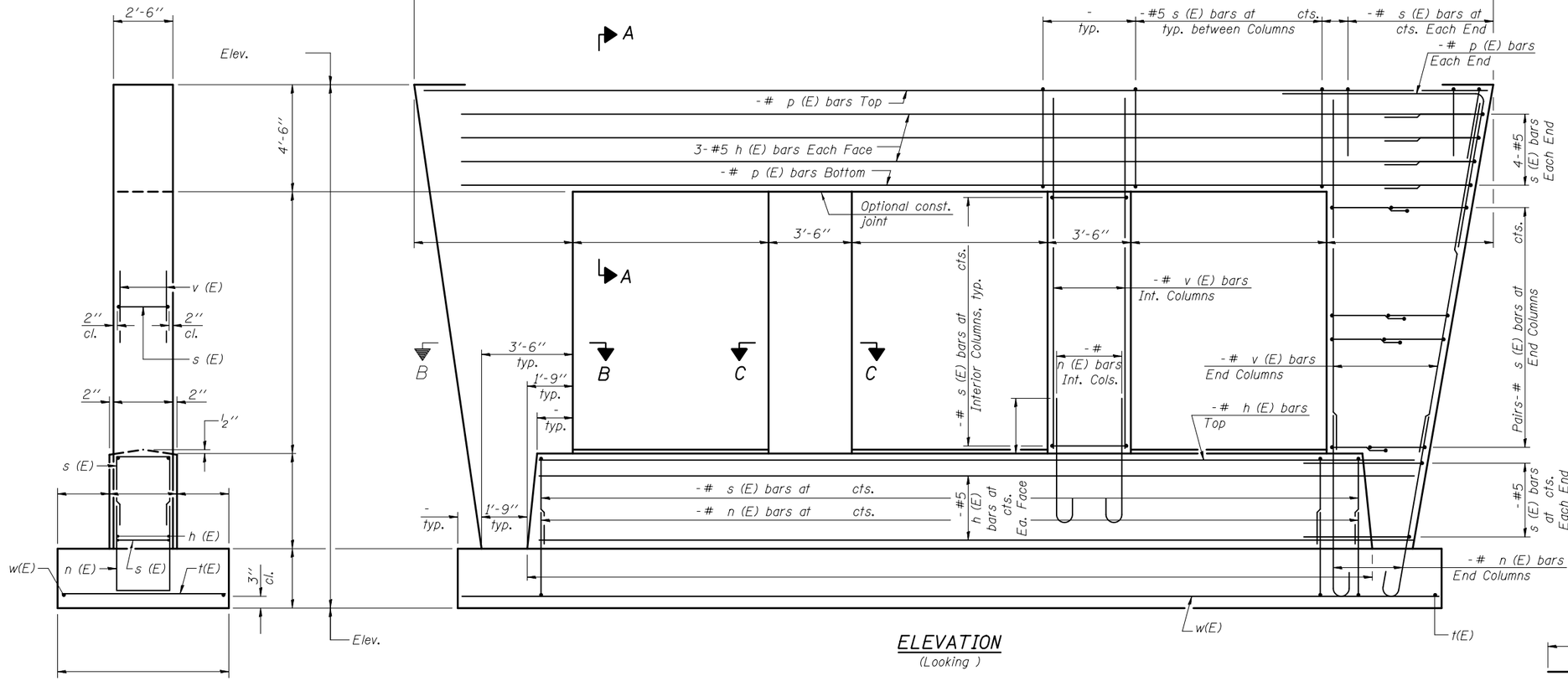
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:

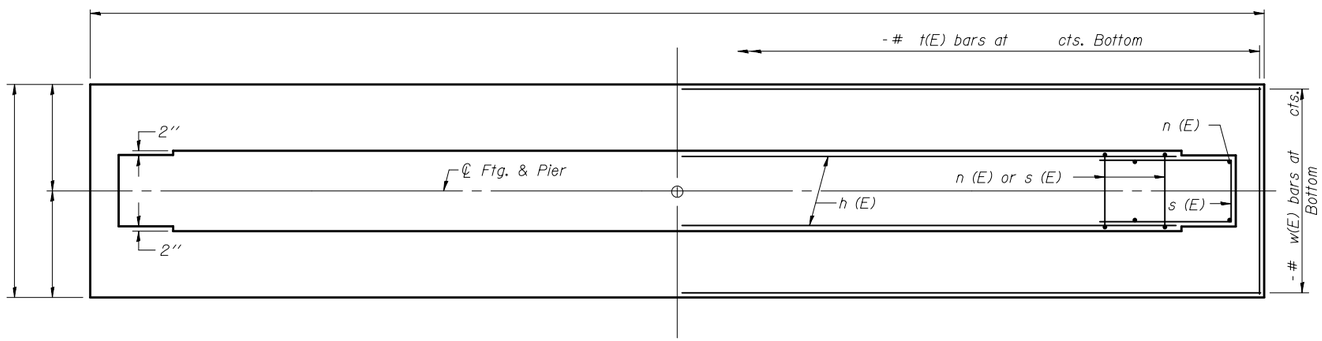


TOP PLAN

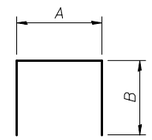


ELEVATION
(Looking)

END VIEW



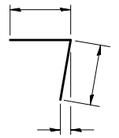
FOOTING PLAN



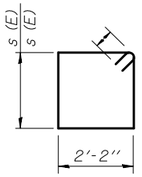
BARS

A & B DIMENSIONS

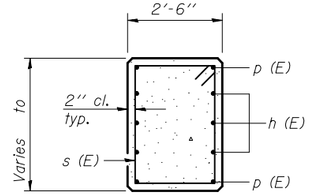
Bar	A	B



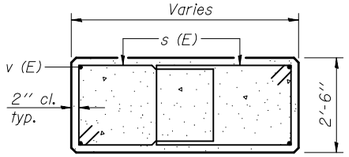
BAR p (E)



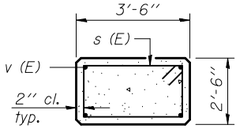
BARS s (E) & s (E)



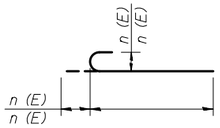
SECTION A-A



SECTION B-B



SECTION C-C



BARS n (E) & n (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
n (E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t(E)		#		
v (E)		#		
w(E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

P-13

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

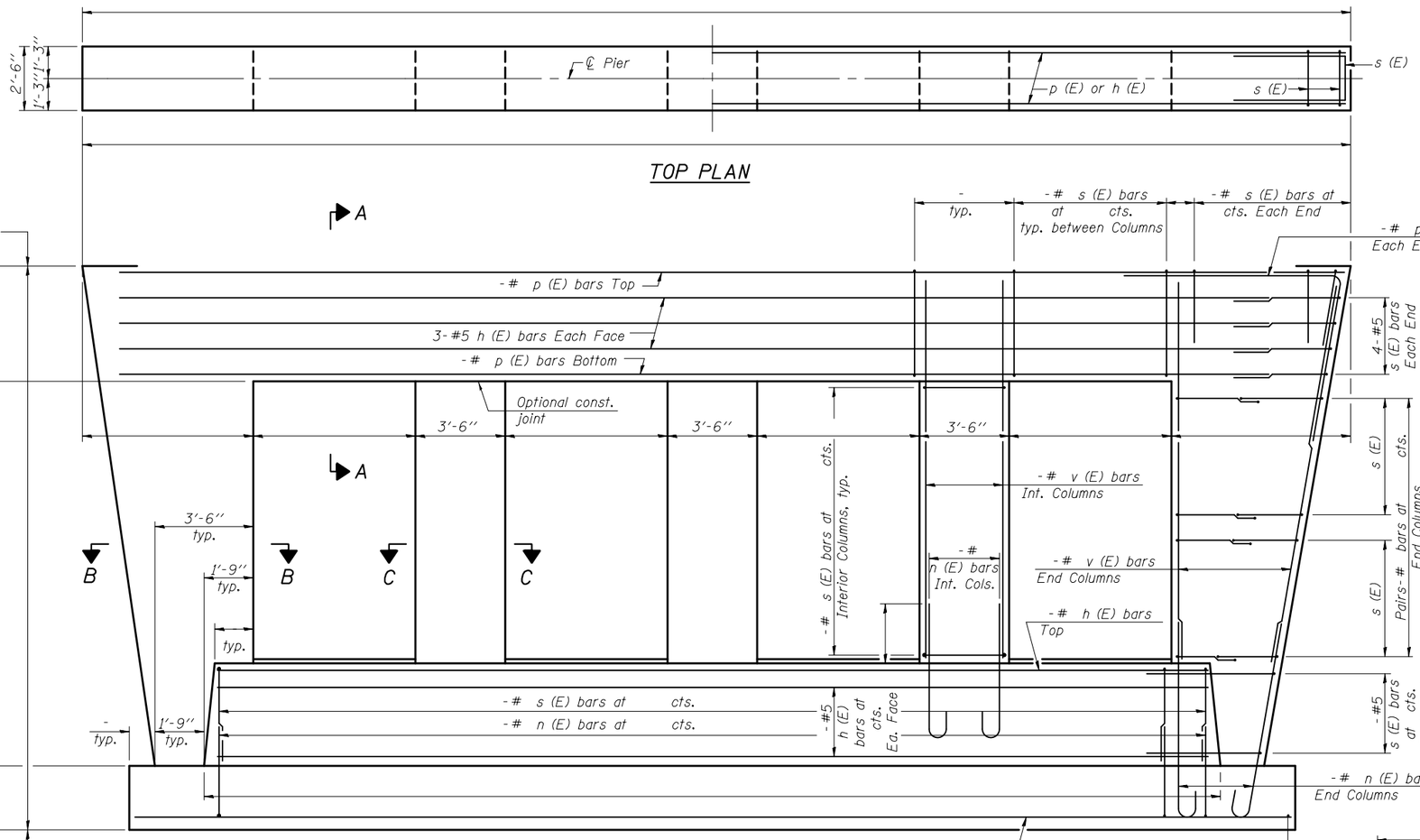
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

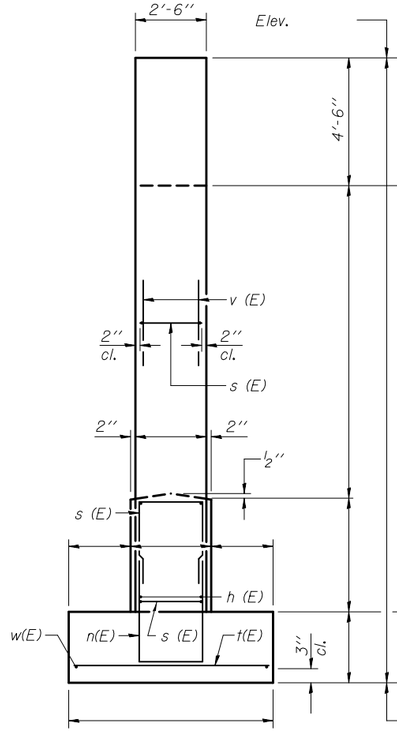
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

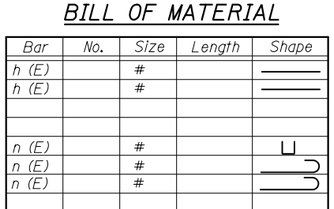
Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



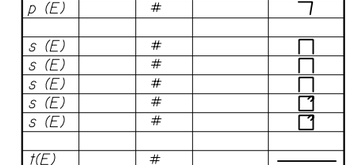
TOP PLAN



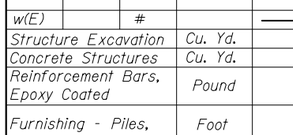
ELEVATION
(Looking)



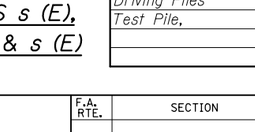
SECTION A-A



SECTION B-B



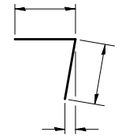
SECTION C-C



BARS n (E) & n (E)

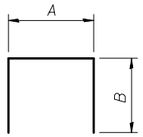
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
n (E)		#		
n (E)		#		
p (E)		#		
p (E)		#		
p (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
s (E)		#		
t(E)		#		
v (E)		#		
w(E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	



BAR p (E)

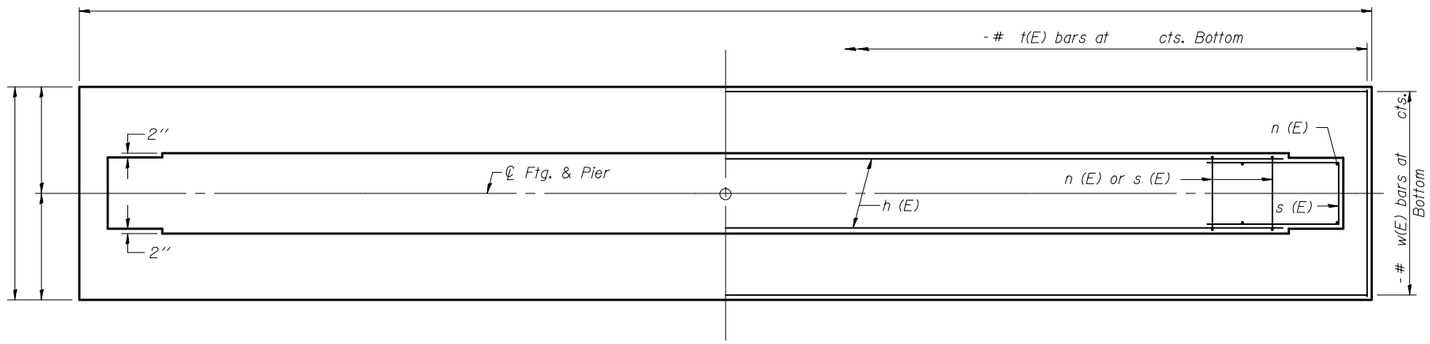
END VIEW



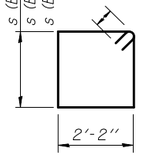
BARS

A & B DIMENSIONS

Bar	A	B



FOOTING PLAN



BARS s (E), s (E) & s (E)

P-14

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

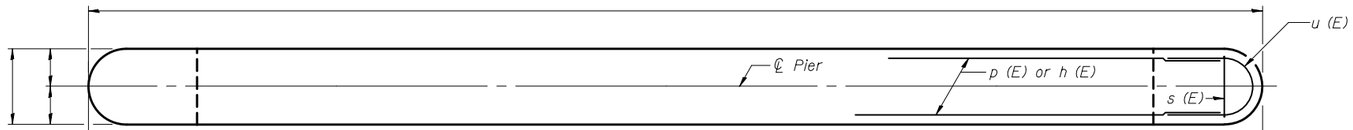
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

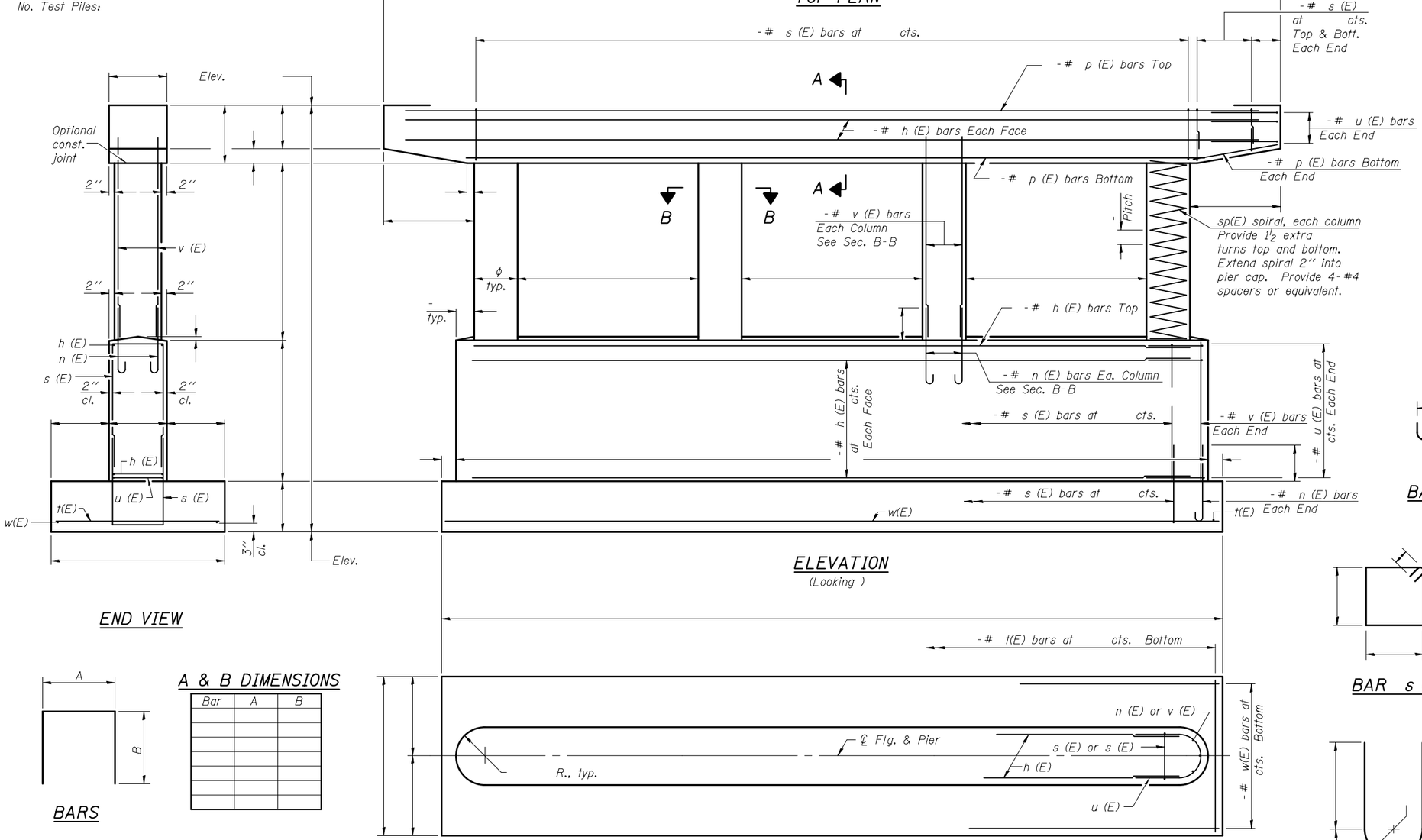
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



TOP PLAN

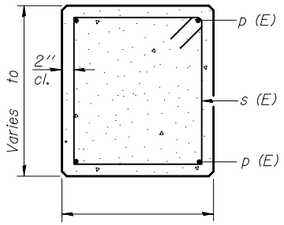


END VIEW

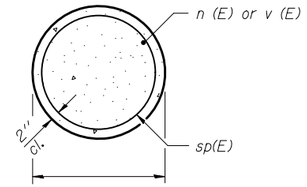
ELEVATION

(Looking)

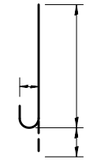
FOOTING PLAN



SEC. A-A

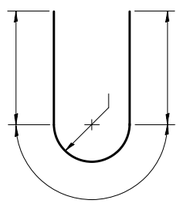


SEC. B-B



BAR n (E)

BAR s (E)



BAR u (E)

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h (E)		#		
	n (E)		#		
	p (E)		#		
	p (E)		#		
	s (E)		#		
	s (E)		#		
**	sp(E)		#		
	t (E)		#		
	u (E)		#		
	v (E)		#		
	w (E)		#		
	Structure Excavation		Cu. Yd.		
	Concrete Structures		Cu. Yd.		
	Reinforcement Bars, Epoxy Coated		Pound		
	Furnishing - Piles,		Foot		
	Driving Piles		Foot		
	Test Pile,		Each		

** Length is height of spiral.

BARS

A & B DIMENSIONS

Bar	A	B

P-24

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

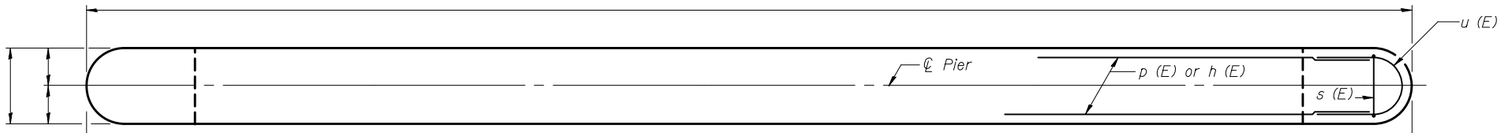
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

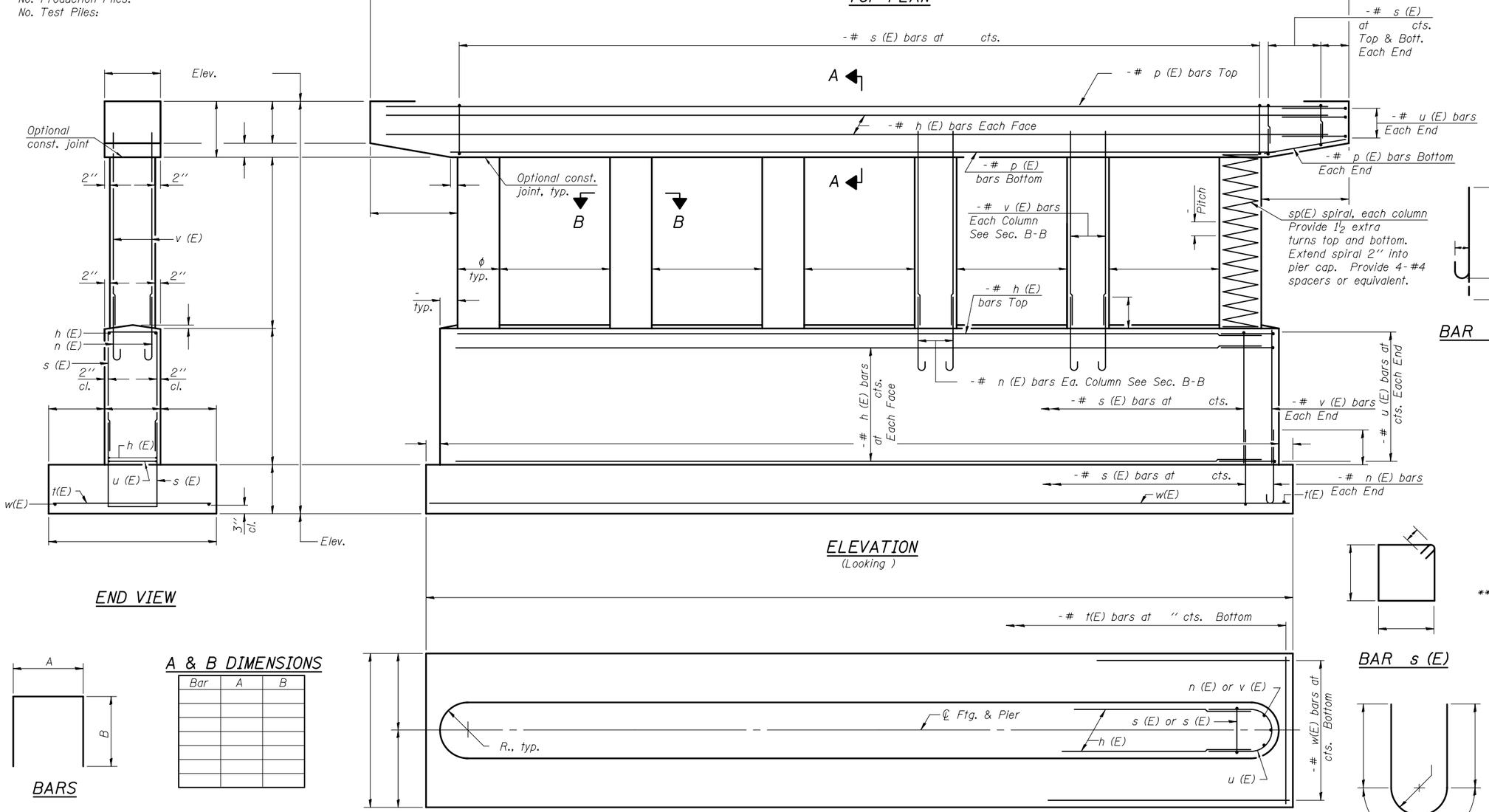
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



TOP PLAN



ELEVATION
(Looking)

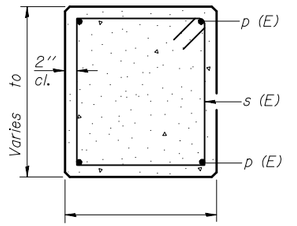
END VIEW

BARS

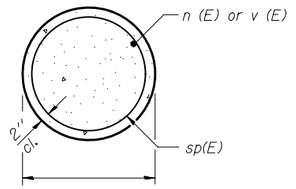
A & B DIMENSIONS

Bar	A	B

FOOTING PLAN



SEC. A-A



SEC. B-B

BAR n (E)

BAR s (E)

BAR u (E)

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h (E)		#		
	n (E)		#		
	p (E)		#		
	p (E)		#		
	s (E)		#		
	s (E)		#		
**	sp(E)		#		
	t (E)		#		
	u (E)		#		
	v (E)		#		
	w (E)		#		
	Structure Excavation			Cu. Yd.	
	Concrete Structures			Cu. Yd.	
	Reinforcement Bars, Epoxy Coated			Pound	
	Furnishing - Piles,			Foot	
	Driving Piles			Foot	
	Test Pile,			Each	

** Length is height of spiral.

P-26

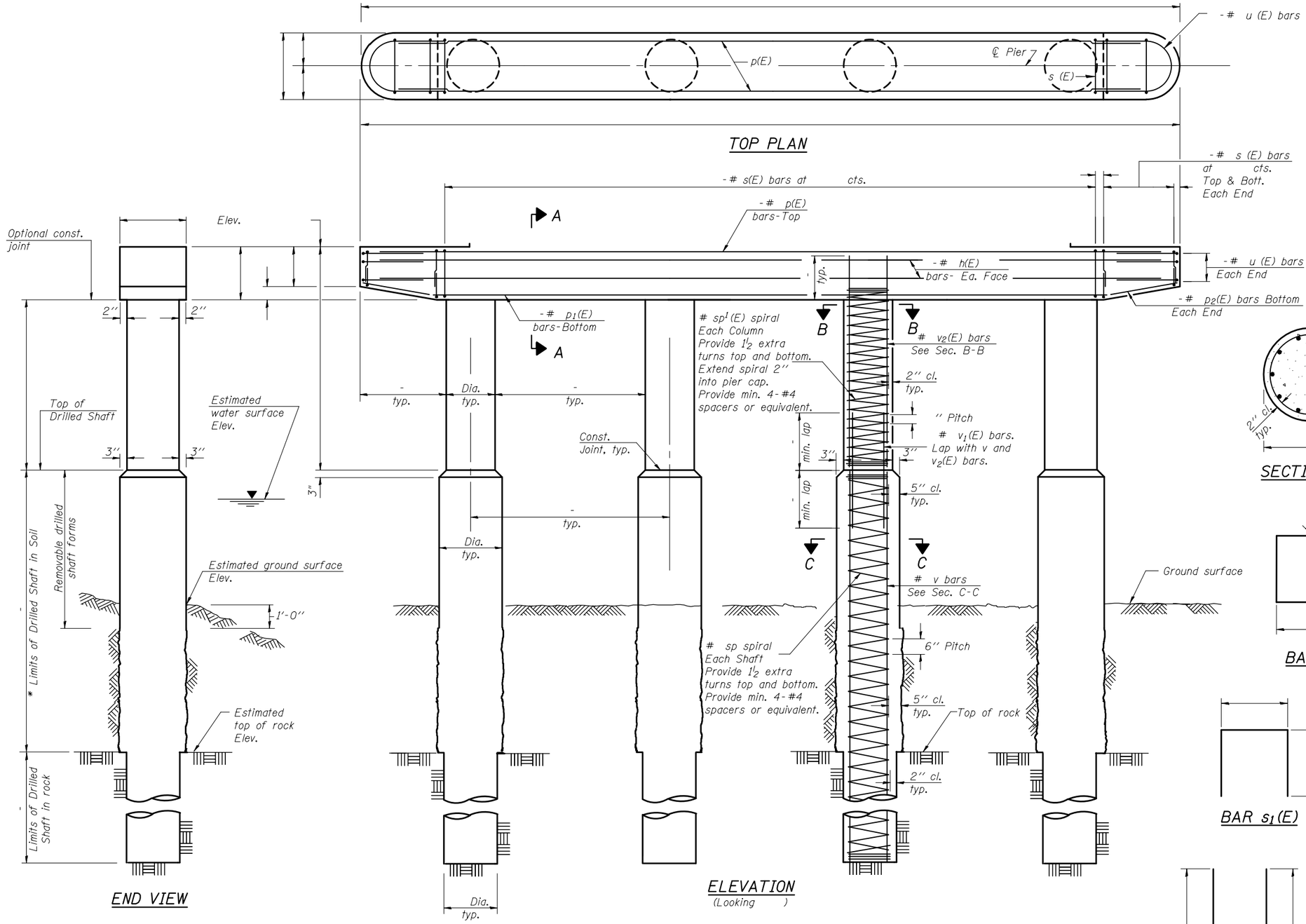
7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h(E)		#		
	p(E)		#		
	p1(E)		#		
	p2(E)		#		
	s(E)		#		
	s1(E)		#		
**	sp		#		
**	sp1(E)		#		
	u(E)		#		
	v		#		
	v1(E)		#		
	v2(E)		#		
	Concrete Structures			Cu. Yd.	
	Reinforcement Bars, Epoxy Coated			Pound	
	Reinforcement Bars			Pounds	
	Drilled Shaft in Soil			Cu. Yd.	
	Drilled Shaft in Rock			Cu. Yd.	

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

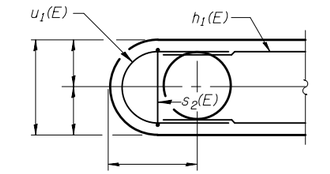
P-DS 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

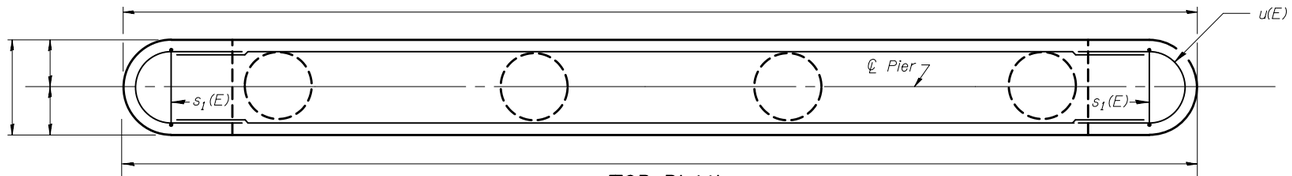
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

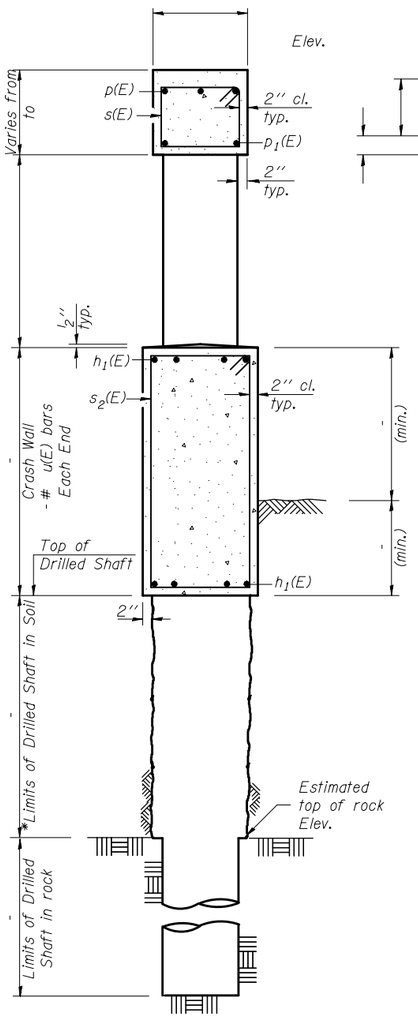
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



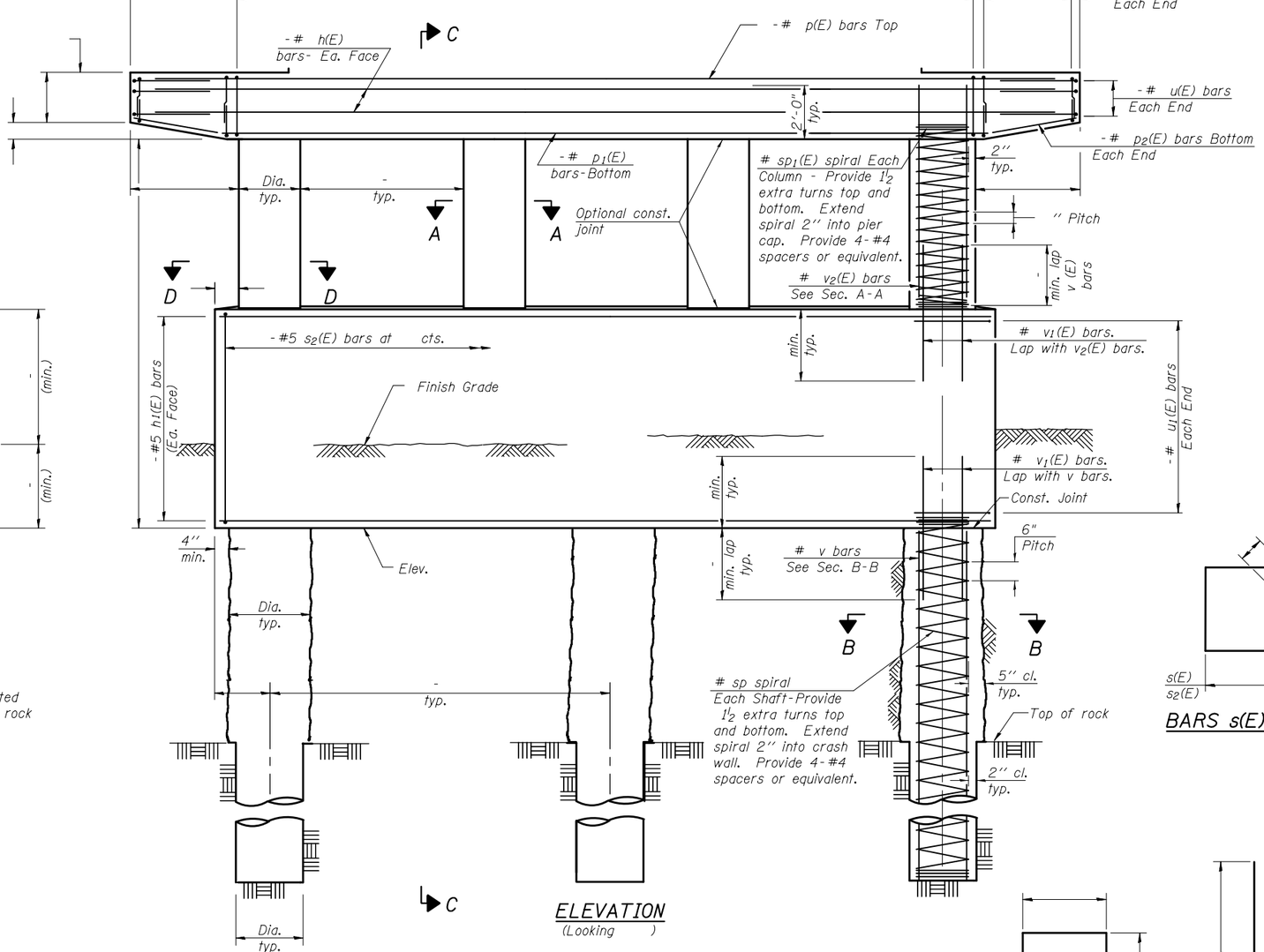
SECTION D-D



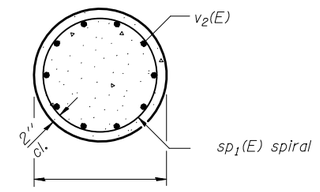
TOP PLAN



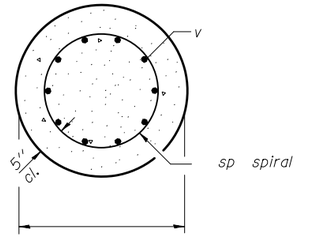
SECTION C-C



ELEVATION (Looking)

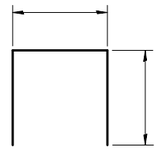


SECTION A-A

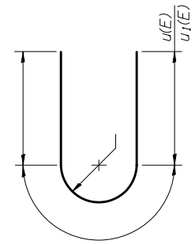


SECTION B-B

BARS s(E) & $s_2(E)$



BAR $s_1(E)$



BARS u(E) and $u_1(E)$

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h(E)		#		
	$h_1(E)$		#		
	p(E)		#		
	$p_1(E)$		#		
	$p_2(E)$		#		
	s(E)		#		
	$s_1(E)$		#		
	$s_2(E)$		#5		
**	sp		#		
**	$sp_1(E)$		#		
	u(E)		#		
	$u_1(E)$		#		
	v		#		
	$v_1(E)$		#		
	$v_2(E)$		#		
	Concrete Structures			Cu. Yd.	
	Reinforcement Bars			Pound	
	Reinforcement Bars, Epoxy Coated			Pound	
	Drilled Shaft in Soil			Cu. Yd.	
	Drilled Shaft in Rock			Cu. Yd.	

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

P-DSCW 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

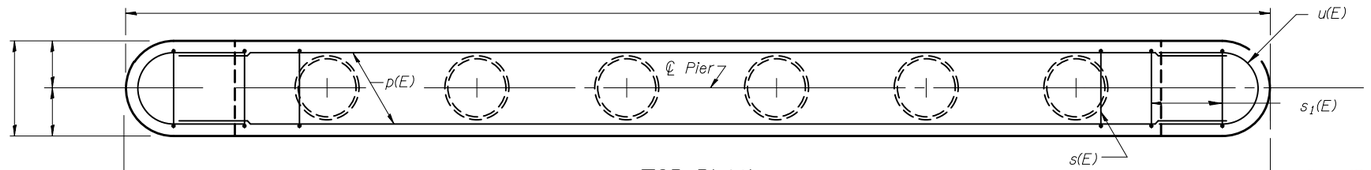
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

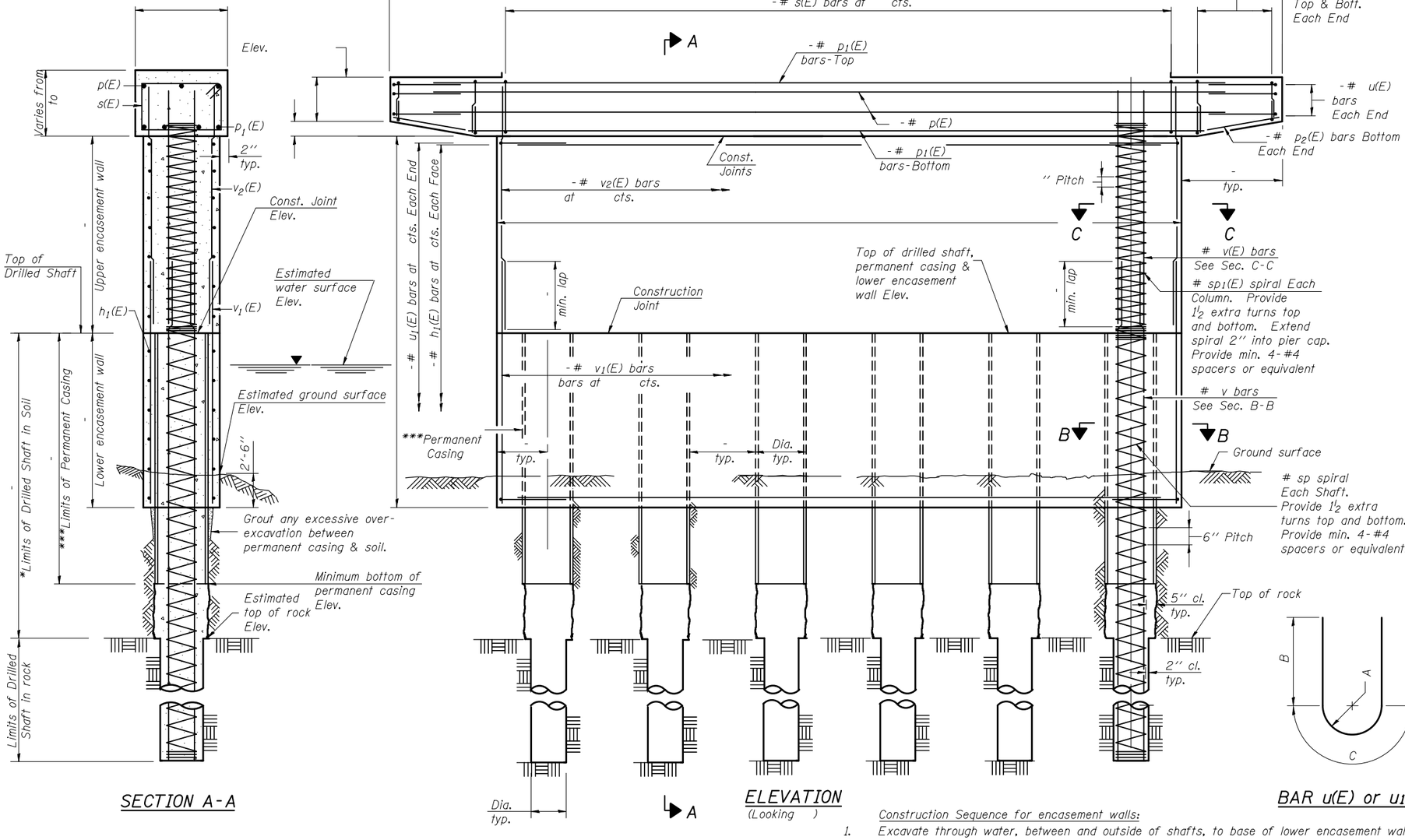
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			CONTRACT NO.	
		ILLINOIS	FED. AID PROJECT	

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications.

Pay limits for the Permanent Casing are based on the minimum length shown.

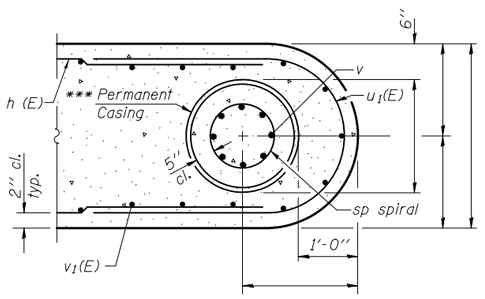


TOP PLAN

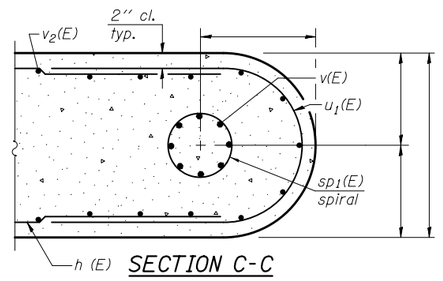


ELEVATION (Looking)

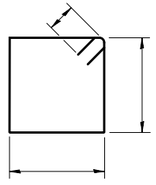
SECTION A-A



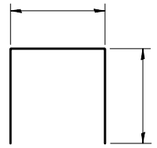
SECTION B-B



SECTION C-C



BAR s(E)



BARS s1(E)

BAR u(E) or u1(E)

A, B & C DIMENSIONS

Bar	A	B	C
u(E)			
u1(E)			

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h(E)		#		
	h1(E)		#		
	p(E)		#		
	p1(E)		#		
	p2(E)		#		
	s(E)		#		
	s1(E)		#		
**	sp		#		
**	sp1(E)		#		
	u(E)		#		
	u1(E)		#		
	v		#		
	v(E)		#		
	v1(E)		#		
	v2(E)		#		
	Concrete Structures		Cu. Yd.		
	Reinforcement Bars		Pound		
	Reinforcement Bars, Epoxy Coated		Pound		
	Underwater Structure Excavation Protection, Location		Each		
	Drilled Shaft in Soil		Cu. Yd.		
	Drilled Shaft in Rock		Cu. Yd.		
	Permanent Casing		Foot		

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Construction Sequence for encasement walls:

1. Excavate through water, between and outside of shafts, to base of lower encasement wall.
2. Set lower encasement wall forms into place through water and secure at top and bottom as required to maintain proper clearance from shaft.
3. Place the lower encasement wall reinforcement cage into forms using spacers to maintain proper clearances from shaft and forms.
4. If the forms can be sealed against the streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
5. Prepare construction joint at top of drilled shafts and lower encasement wall.
6. Splice upper encasement wall reinforcement and cage length to lower encasement and shaft reinforcement, form and pour upper encasement wall.

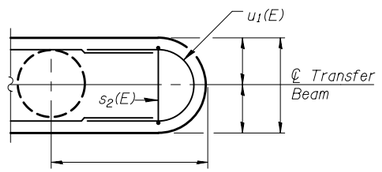
P-DSSW 11-26-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

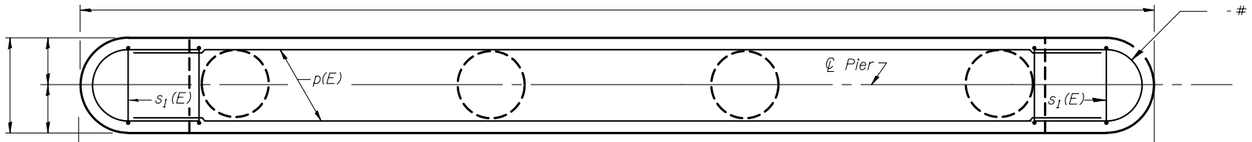
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

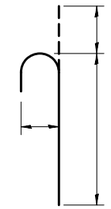
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



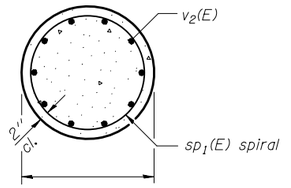
SECTION D-D



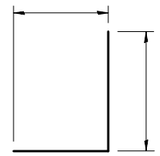
TOP PLAN



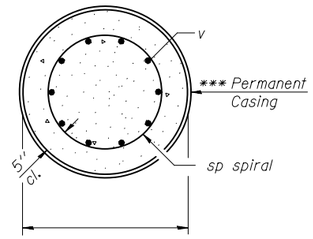
BAR n(E)



SECTION A-A



BAR $n_1(E)$



SECTION B-B

SECTION C-C

ELEVATION (Looking)

BAR $s_1(E)$

BARS s(E) & $s_2(E)$

BARS u(E) and $u_1(E)$

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications.
Pay limits for the Permanent Casing shall be based on the minimum length shown.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
n(E)		#		
$n_1(E)$		#		
p(E)		#		
$p_1(E)$		#		
$p_2(E)$		#		
s(E)		#		
$s_1(E)$		#		
$s_2(E)$		#		
** sp		#		
** $sp_1(E)$		#		
u(E)		#		
$u_1(E)$		#		
v		#		
$v_1(E)$		#		
$v_2(E)$		#		
Concrete Structures		Cu. Yd.		
Reinforcement Bars		Pound		
Reinforcement Bars, Epoxy Coated		Pound		
Drilled Shaft in Soil		Cu. Yd.		
Drilled Shaft in Rock		Cu. Yd.		
Permanent Casing		Foot		

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

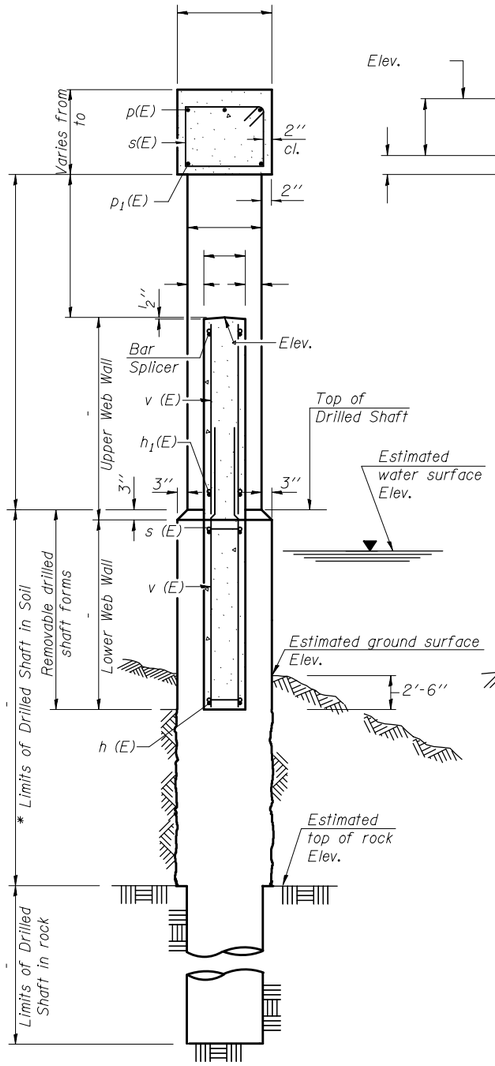
P-DSTB 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

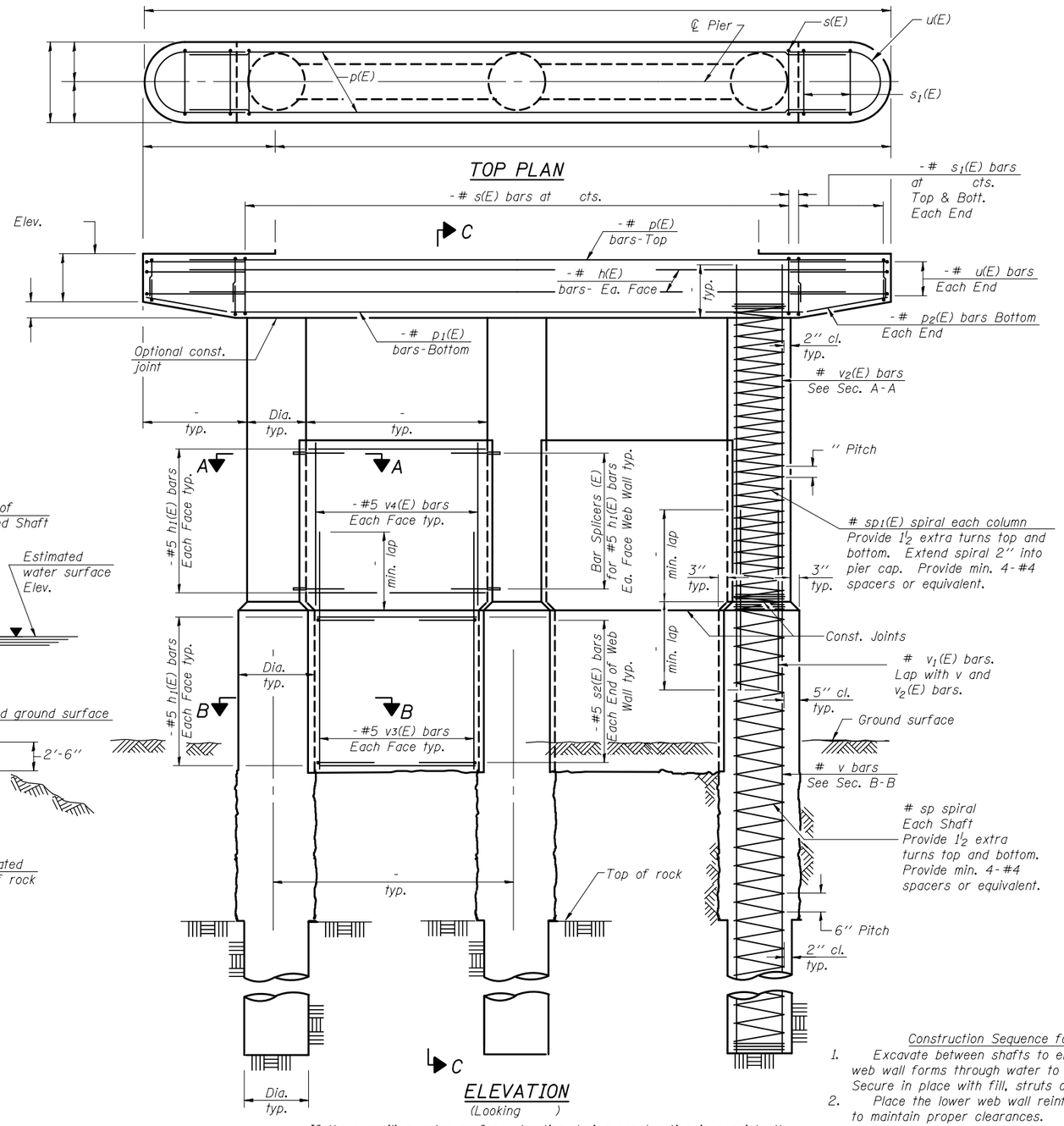
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

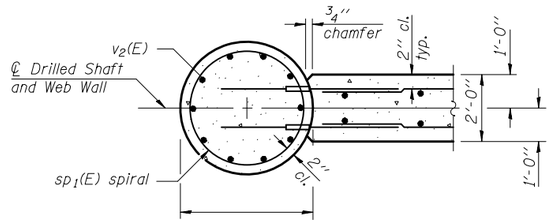
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



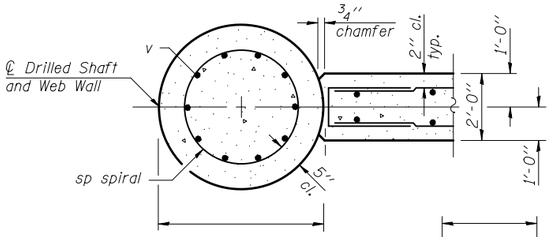
SECTION C-C



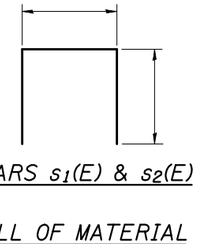
ELEVATION (Looking)



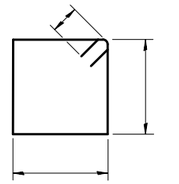
SECTION A-A



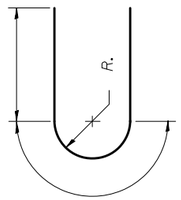
SECTION B-B



BARS $s_1(E)$ & $s_2(E)$



BAR s(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)		#		
$h_1(E)$		#		
p(E)		#		
$p_1(E)$		#		
$p_2(E)$		#		
s(E)		#		
$s_1(E)$		#		
$s_2(E)$		#		
** sp		#		
** $sp_1(E)$		#		
u(E)		#		
v		#		
$v_1(E)$		#		
$v_2(E)$		#		
$v_3(E)$		#		
$v_4(E)$		#		
Concrete Structures		Cu. Yd.		
Reinforcement Bars		Pound		
Reinforcement Bars, Epoxy Coated		Pound		
Underwater Structure Excavation Protection Location		Each		
Bar Splicers		Each		
Drilled Shaft in Soil		Cu. Yd.		
Drilled Shaft in Rock		Cu. Yd.		

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals =
** Length is height of spiral.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Construction Sequence for Web Wall:

1. Excavate between shafts to elevation of web wall base and set lower web wall forms through water to bear on the circular edge of drilled shafts. Secure in place with fill, struts or tie forms together as required.
2. Place the lower web wall reinforcement cage into the forms using spacers to maintain proper clearances.
3. If the forms can be sealed against the shafts and streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
4. Construct Columns.
5. Construct upper web walls.

P-DSWW 11-26-12

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		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

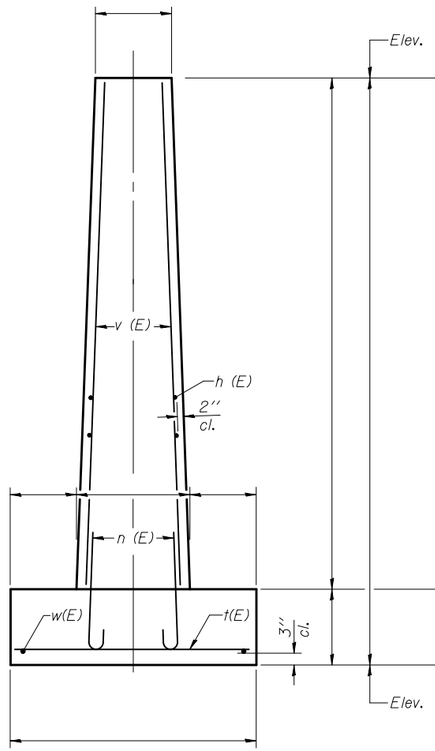
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

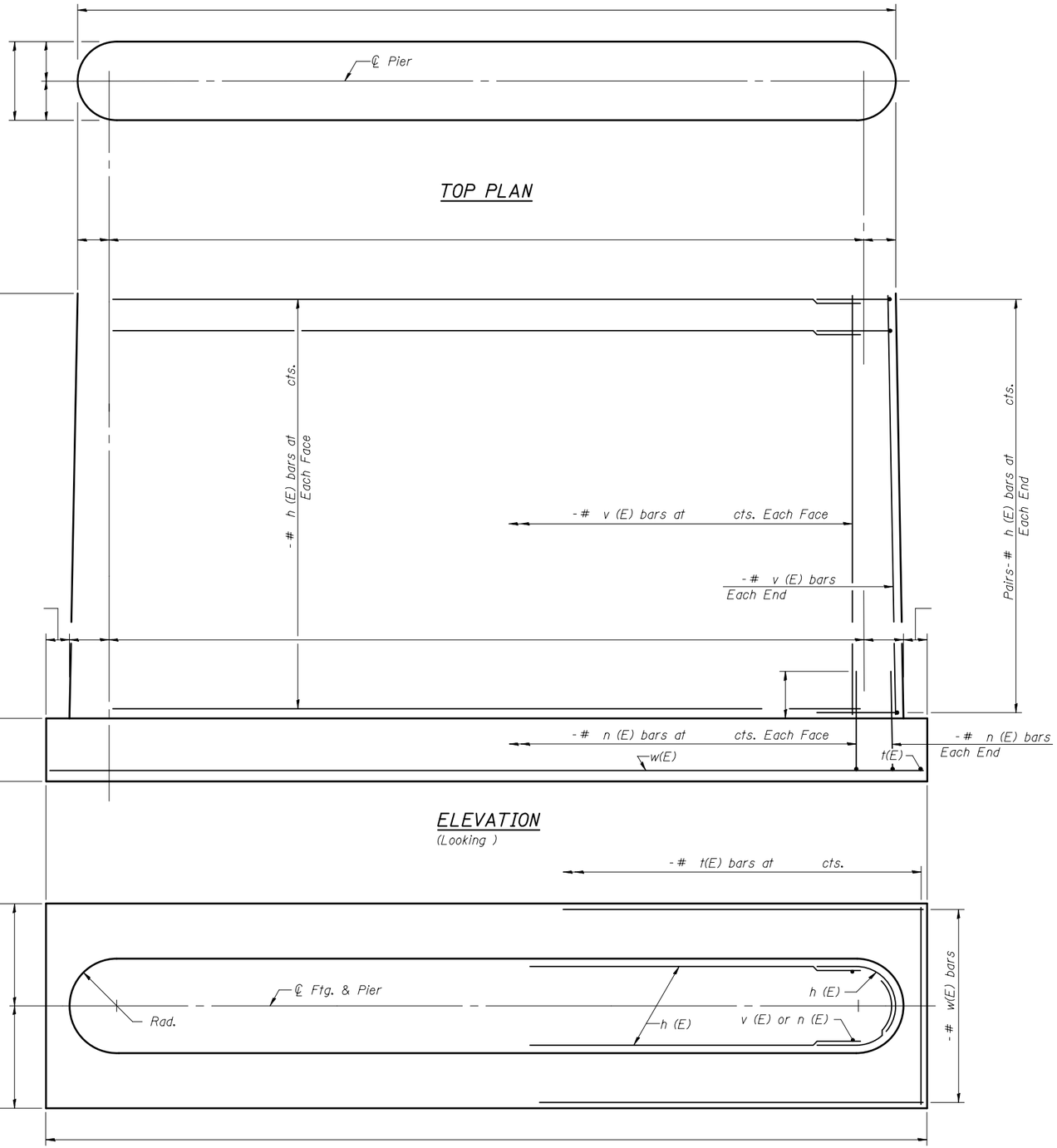
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



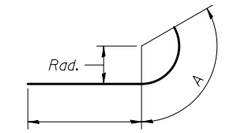
END VIEW



TOP PLAN

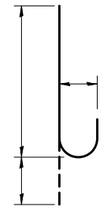
ELEVATION
(Looking)

FOOTING PLAN



Bar	Rad.	A
h (E)		
h (E)		

DETAIL OF BARS h (E)



BAR n (E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
h (E)		#		
n (E)		#		
t (E)		#		
v (E)		#		
w (E)		#		
Structure Excavation		Cu. Yd.		
Concrete Structures		Cu. Yd.		
Reinforcement Bars, Epoxy Coated		Pound		
Furnishing - Piles,		Foot		
Driving Piles		Foot		
Test Pile,		Each		

PB-1 7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

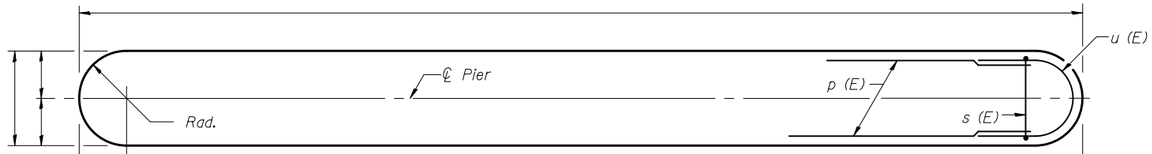
PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

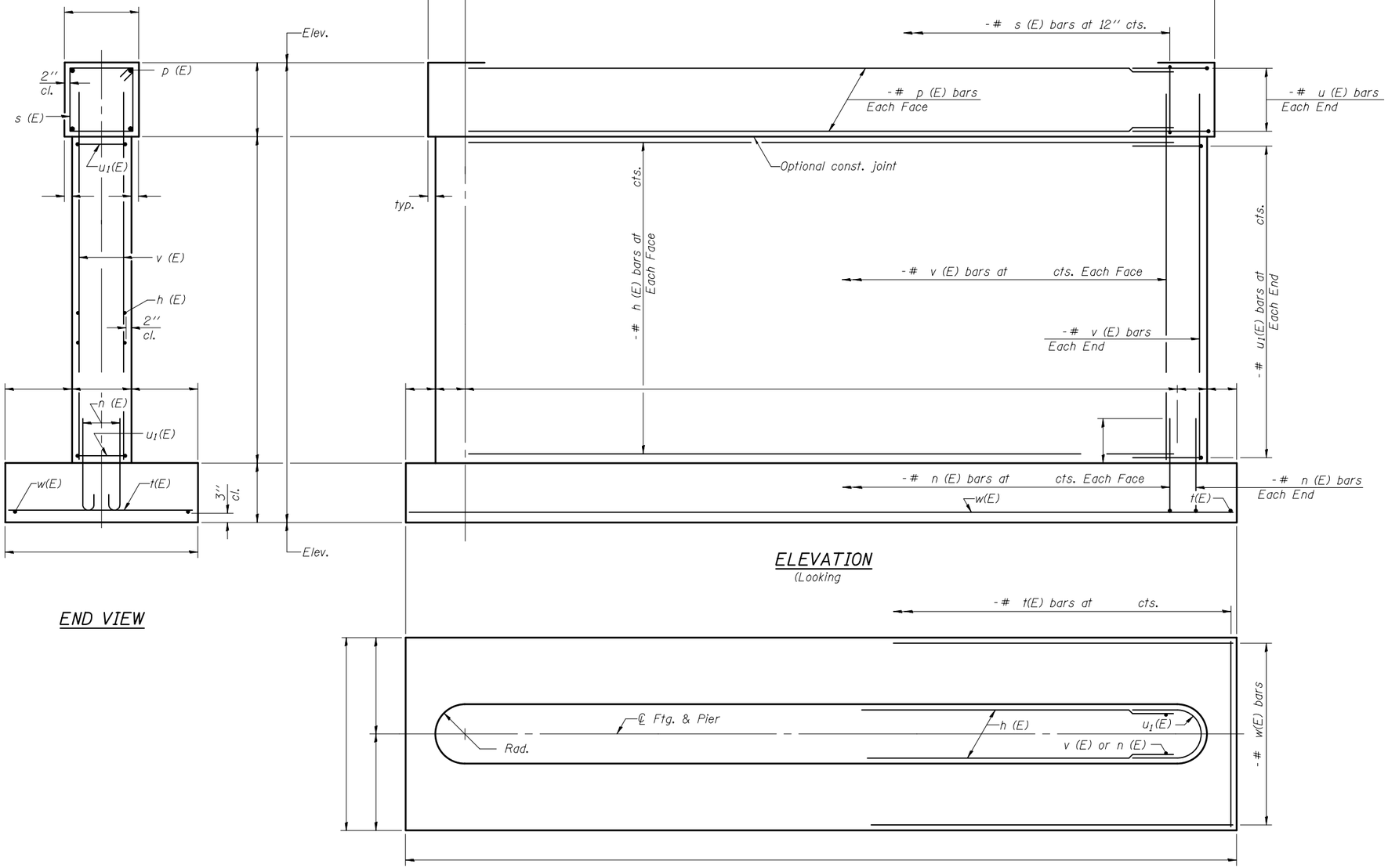
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet - of -.

PILE DATA

Type:
Nominal Required Bearing:
Factored Resistance Available:
Est. Length:
No. Production Piles:
No. Test Piles:



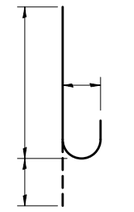
TOP PLAN



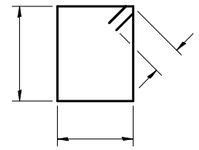
END VIEW

ELEVATION
(Looking

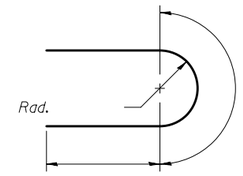
FOOTING PLAN



BAR n (E)



BAR s (E)



BARS u (E) & u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)		#		
n (E)		#		
p (E)		#		
s (E)		#		
t (E)		#		
u (E)		#		
u1(E)		#		
v (E)		#		
w (E)		#		
Structure Excavation			Cu. Yd.	
Concrete Structures			Cu. Yd.	
Reinforcement Bars, Epoxy Coated			Pound	
Furnishing - Piles,			Foot	
Driving Piles			Foot	
Test Pile,			Each	

PC-1 7-1-10

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		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			